INDIAN RAILWAYS

AND

INDIAN TRADE.

BY

S. C. GHOSE.

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Dedicated

TO

THE SACRED MEMORY

OF

THE AUTHOR'S

MOST REVERED FATHER

THE LATE MR. NUNDO LALL GHOSE

AT WHOSE FEET THE AUTHOR LEARNT

THE FIRST PRINCIPLES OF

RAILWAY WORKING.

PREFACE.

An attempt has been made in this book to place before the public the position of Indian Railways in connection with the rates charged to the trade for conveyance of merchandise, having regard to the interest of the development of the trade and resources of the country.— The Indian public will know from the various chapters that follow, more probably than most of them had the opportunity of knowing before as to the connection of Indian trade with Railway Rates.

Mr. A. Muirhead, one of India's most eminent Railway men observed in a public speech, that "in commercial business circles and in Railways the interests are identical". He further emphasised that 'what is good for one is good for the other, and that political agitation is a matter foreign to both'. He also went on to say that in negotiations between Railways and the commerce, political agitation found no place, and that, therefore, Railways and traders were friends in every respect, all working for the success of the Great Empire to which we all belong. How very true these remarks are, and the author has tried to follow them, coming as they do from one, who nominated the author for entrance into the railway world and for whom the author has always had great respect and admiration.

Railway Rates generally should tend downwards, if we are right in believing in progress; but as Railways in India are practically financed and owned by the State,

the task of the Government of India is not a very easy one, because on the one hand they must look to the development of the country and of its trade, through railways, to their fullest extent, and on the other they are responsible that the public money is spent as cautiously as possible, so that the interests of the country in various other directions are not sacrificed for want of funds.

Of late there has been an undoubted awakening of interest amongst Indians in matters relating to the development of Indian industries, but unfortunately there has been no book written in India, dealing with Railway transport charges.

Having regard to the fact that great bulk of the merchandise of India is carried by Railways, and as naturally, therefore, the Railway transport charges play a very important part in this connection, the education of the public in these questions is essential. The general belief amongst the Indian people seems to be that India's local trade does not exercise the same right over Indian Railways as the foreign trade and suggestions have been put forward in this book as to how far the Railways in India can assist the local industries and help the indigenous productions by fostering rates.

Freedom of access to the markets of the country, and also to those of the world generally are very important to the trade, but at the same time the Indian people should see that its indigenous productions are encouraged in every respect.

The author, who has acquired some technical knowledge in the matter of Railway Rates, and has closely studied the subject with regard to its connection with the trade, has attempted to place before the public his experience and knowledge limited though they are He would have preferred for this work of writing a book on "Indian Railway and Indian Trade" to have been undertaken by one of the Railway rates experts, of whom there are so many in the country both amongst Europeans and Indians, but after waiting for a long time for such a book to come out, he has at last taken up this difficult task upon himself, and if this book is of any little use to his countrymen, he will feel very gratified. In America, all the principal Colleges give instructions on Railway matters, including Railway Economics and on the principles governing the rates charged for Railway service, and students leaving the College carry with them some knowledge of Railway problems, but in India the importance of Rail road questions is not so strongly felt as in Europe and America but it is to be hoped that it will not be long before the Indian Universities recognise the importance of education in Railway matters, which affect the trade of India so very considerably.

Circumstances have prevented the author from completing this book, and the pages that follow are but an instalment, and the author will be glad for corrections in matters of fact or criticism on matters of opinion that may be sent to him, and trusts that the complete work which will contain a treatise on the principles of Railway

Rate-making in detail and deal with many other commodities besides those touched upon, will benefit by the criticisms and suggestions.

"Railways and Their Rates" by Edwin Pratt, "The Railways and the Traders", and "Railway Economics" by Acworth, "Fixing of Rates and Fares" by Marriott, "Railroad Transportation" by Hadley, "Railways", by McDormott "Railway Rates and Radical Rule" by Buckingham Pope, "Railway Policy in India" by Horace Bell, "British Railways" by Hugh Munro Ross, "Railway Problems" by Ripley, and the Reports of Late Mr. T. Robertson and of Mr. Neville Priestley have been freely consulted and quotations made from them. The Railway Board's Administration Reports, Hand Book on Indian Agriculture by N. G. Mukerji M. A. &c., the publications of the Commercial Intelligence Department of Government of India, Watt's Dictionary of Economic Products of India and the Quinquennial Review of the mineral productions of India by Sir Thomas. H. Holland K.C.I.E. &c., have also been of great use, and placed very useful information and Statistics within easy reach of the author.

3rd February, 1911. S. C. G.

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INTRODUCTORY CHAPTER.

Railways and Rail transport charges are most important factors in the commerce of the country, and greater public interest should be evinced in these matters than has hitherto been shewn; but up to now the public have generally been in the dark in regard to the policy underlying the rail transport charges. The present is a moment, when Railway policy, like the policies of all other departments, is undergoing a revolution, but the difference is that while vital questions affecting other departments are often discussed in public prints, in Councils, in the different Chambers of Commerce and in various other Associations, representing the trade and the public, it is rarely that railway rates problems are discussed at any great length, in all their phases, outside the Railway world; during recent years, the only question of the kind fully discussed was the 'Minimum Railway Rates,' but it died a natural death.

Railways in India are practically the property of the State, and consequently of the taxpayers. The great trunk lines of India are all owned by the Government, although some are still leased to different Companies for purposes of working, while others are worked directly under State management. Either the taxpayers of India or the traders practically provide funds for the construction, extension and upkeep of the railways in India.

When the Railways were first opened in India, contract was made between the Government of India and the Railway Companies, in which amongst other things the following were embodied :—

(*a*) Companies would allow the use of the railways to the public on the terms to be dictated by the Government and would not charge higher tolls without the approval of the Government.

(*b*) The Government would stand a guarantee of 5% on the capital invested; provide free land and would have the right to reduce rates and fares if the dividend be declared more than 10% on the capital outlay.

(*c*) The Government had the option of purchasing the property of Railways on payment of the value of all the Share capital.

Under the powers of purchase the Government, within six months after the expiration of the twenty-fifth or fiftieth year from the date of contract, could give notice of its intention to purchase a line and either pay a sum equivalent to the value of all the share capital, calculated on the mean market value of the preceding three years, or pay an equivalent annuity for the residue of the term of ninety-nine years. Under these agreements the East Indian line was taken over in 1879, the Eastern Bengal in 1884, the Scinde, Punjaub, and Delhi in 1885, the Oudh and Rohilkund in 1888, the South Indian in 1890, and the Great Indian Peninsula in 1900

Annuities were issued for the purchase of all these properties except for the Oudh and Rohilkund and the South Indian systems, which were acquired by a cash payment.

CONTROL OF RAILWAY RATES BY RAILWAY BOARD AND THE GOVERNMENT.

The attempt of the Railway managers seem to have been to manage Railways without regard to the demands of the public policy; the one object of the Railway managers appears to be to obtain best results in the nett receipts, but in doing so due regard must be given to the best interests of the public. This is, however, scarcely done unless the interersts of the public govern the interets of the Railway as well. The control of matters pertaining to railway rates is vested in the Railway Board, but recently the revision of classification has been entrusted to a Goods classification committee, subject to the control of the Railway Board.

The Railway Board has now been in existence for some time past, but its functions are too many, and, hitherto, it does not appear to have had the time to go into questions affecting railway rates, having regard to the interests of the public and the trade. When the Railway Board was created it was said that there should be a body of practical business men entrusted with full authority to manage Railways in India on commercial principles. While it is true that the railway rates have always been subject to the control of the Government of India and

are bound by certain maxima and minima rates, there is so much play within these limits (When one knows how to play at the game) that it is not quite practicable to exercise any effective control, unless undivided attention is paid to the subject. By 'effective control' a great deal more is meant than is obvious. What is intended to imply is 'Are the railway rates in India such that they help considerably towards development of the country and its industries to their fullest extent.'

RAILWAY COMMISSIONS IN ENGLAND AND OTHER COUNTRIES.

In America and in England, where railways are not financed by the State, the public have a greater voice in the matter of the fixing of railway rates than the people of this country, who are practically the proprietors of the Indian Railways. In England, the question of railway rates has often gone up to Parliament and formed the subject of public enquiry by special commissions; but in India, although railways have been in existence for over half a century, there has been a total absence of any such special investigation on public representation, but this is no evidence that the railway rates in India are absolutely fair and square. The majority of the trading classes in India know no better, and are content to abide by the decision of the Railway authorities, and it is rarely that they go up to the Government in these matters.

Maximum of Traffic with the Minimum of Profit.

The wise Statesmen, in the years gone by, who had, at one time, the control of the destinies of India, gave their opinion that as the railways in India were constructed on principles different to those in other countries and more or less for the good of the people and were or were to be owned by the State, the interests of the public and of the railways should invariably be allied together. It was further deliberated that cheap rates and fares should be the maxim of railways, encouragement being given to healthy competition, and ruinous competition put down. 'Minimum of profit with the maximum of traffic' was the policy laid down by those wise men, who had the interest of India and of the Indian people at their hearts.

CHAPTER I.

GOODS CLASSIFICATION COMMITTEE.

Recently, in order to simplify the Goods Tariffs or the Railway Rates Books, a Tariff Simplification Committee has been formed; and it may be that this Committee has done a lot of good calculated to benefit the public, but the remarkable feature is that not a single member in that Committee is from outside the Railway world. If the object of the Committee was to merely simplify the method of Rate Publications, there would have been no objection to Railway officials only being on that Committee, but the Tariff issued, as the result of their work shows that there have been enhancements in the classification in many cases; such being the case, the public could reasonably ask to have been consulted. It would fill pages if the case of every commodity, where the classification has been raised, is discussed, and, therefore, for the purpose of this work, it would be sufficient to instance a few items of traffic only. Cotton full pressed (that is cotton after it is ginned and pressed) used previously to be classified 2nd class (or equivalent to the rate of ½ pie per maund per mile) but in order, perhaps, to regularise the rates of the great cotton carrying line of India (*viz.* The Great Indian Peninsula, which was allowed to charge a higher rate than the second class *over a section* of its system), the General Classification of cotton, full pressed, over all the railways in India has been raised to 5th class (or equivalent to one pie per maund per mile) or enhancement in the rate per mile amounts to 100 per cent., Power has thus been given to all the Railways in India, which hitherto could not charge more other ½ pie per maund per mile, to level up their rates, should they like, to one pie per maund per mile, while on the one

hand, the Government of India are anxious to improve and to increase the cultivation of cotton in India, the Railway authorities, seem to be anxious to secure powers to raise their rates— a policy obviously opposed to the wishes of the Government. It may, perhaps, be argued by the Railways that if the cotton traffic on the G. I. P. has borne the higher classification, why can not high rates prevail throughout India or that in a high priced commodity like cotton, in which the market price fluctuates so often, according to supply and demand, the enhancement will not mean much; but one fact cannot be denied that the cotton milling industry, in India, is still in its infancy, and every pie raised will have to be borne by it. Further, it is only lately that the Indian cotton has gained a name for itself in other countries, and therefore, requires every assistance from all sides, for its further advancement. It may be, that the increased powers have not yet been exercised, but it is open to the Railways to do so, at any moment.

Ghee Rates.

It may not be out of place to mention here that ghee is an important item of food to every Indian, and in the case of a commodity, which is so universally consumed by the people, it is naturally expected that the railway rates would be reduced instead of increased, but unfortunately the classification of ghee carried for distances of over 150 miles has been raised from 1st class ($\frac{1}{3}$ pie per maund per mile) to 2nd class ($\frac{1}{2}$ pie per maund per mile). For ghee carried for 300 miles, the in crease in the rate per ton is Rs 7-1-0. Even the poorest Indian will take ghee, if he can afford it and will not the increase in the railway rate affect him? Ghee is more useful

an article of food to an Indian than butter is to a European taking bread. Ghee is not an unimportant item of revenue to Railways; during 1909. the total Railway earnings from this traffic amounted to Rs. 11,92,857 and the question is whether this revenue should be further increased by raising or lowering the rates. Even a middle class Indian family would be affected; in ghee brought from a distance of 600 miles, the increase in the price per maund will be 100 pies or 2½ pies a seer, and taking half a seer as the daily consumption in a middle class family, the extra money paid in a month will be 3½ annas, which should provide for one day's 'vegetable bazar' for such a family.

Grass Rates.

The Tariff Simplification Committee have also hit the poor cattle hard by raising the classification of grass and straw, sent in the loose state, from 1st class to 2nd class. For a wagon load of 81 maunds of grass and straw, carried for a distance of, say 50 miles, the Railway charge has been raised from Rs. 7-0-0 to Rs. 10-8-0 or by 50 per cent. The Government of India are very much interested in the agricultural development of the country, and the enhancement in the price of cattle fodder may not meet with their approval.

CHAPTER II.

FINANCIAL RESULTS TO THE GOVERNMENT BY WORKING OF RAILWAYS.

It may be that, during recent years, there has been a rise in the working expenses of Railways in India, and it would, therefore, be useful to examine the financial results to the State in the working of State and the Guaranteed Railways. The nett revenue of the State, after deduction of all working expenses, including share of surplus profits paid to Railway Companies, during the following years was as under :—

			Rs.
1907 ...	...	...	19,70,22,598
1908 ...	...	...	14,75,44,448
1909 ...	...	...	17,43,71,720

After payment of ordinary interest charges, the surplus of nett revenue over the interest was as shown below:—

1907 ...	...	4,87,95,916	(surplus)
1908 ...	...	1,13,56,436	(deficit)
1909 ...	...	1,43,84,719	(surplus)

while the actual nett gain or loss, after deduction of annuity payment, representing redemption of capital, was as follows:—

1907 ...	...	3,82,79,206	(gain)
1908 ...	...	2,33,63,936	(loss)
1909 ...	...	17,15,809	(gain)

It is seen that during 1908, there was an actual loss, after payment of all charges, and the gain in 1909 was a little over 17 lakhs; and the question now for consideration is whether the surplus revenue should be increased by enhancement of charges or by reduction of expenditure.

Policy of cheap rates.

The points that next come for consideration are whether the time has come, when the railway rates should be revised with a view to increased charges being levied in order to attain better results in the Government revenue, and whether the development of the trade and of the resources of the country have reached the maximum limit, so as not to require any further help in the way of low rates. Not many years ago, when the late Mr. T. Robertson, C.V.O., the Special Railway Commissioner, visited India, he devoted a special chapter in his report on the subject of "railway rates." He pronounced the Indian Railway Rates as high, and recommended a reduction of 30 per cent. to 60 per cent. in the charges. While freely admitting that such general recommendations are too dangerous to be acted upon, it cannot be said that there was absolutely nothing in what that great railway man said, after exhaustive enquiry into railway matters generally both in this Country and in America.

Effect of low Coal Rates.

In the matter of coal rates, the Government of India, after listening to the complaints of high charges, year after year, took decisive measures in 1905, making considerable reductions in the rates for the carriage of coal, with the result that there has been a vast development of coal trade. It is true that for a while there was a big rise in the prices, closely following upon the railway rate reduction, which was to a great extent swallowed up by the colliery proprietors, but not long after came a slump in the coal trade, specially in the export

traffic resulting in a fall in the prices. The period of high prices is over, and the coal trade is gradually reviving. The time for cheap coal seems to be near, and it cannot be denied that the reduction in the coal rates has done a great deal of good to the country, both directly and indirectly. The coal carrying lines may, however, complain that in some cases, there has been loss in the carriage of coal traffic or that profits have been greatly minimised, but it has to be admitted by them that the gross revenue has increased, as well as the area of coal consumption. The benefit to the milling and other industries and particularly to the railways far away from the coal fields (for instance, the the North-Western) has been great. It is correct to a certain extent that the carriage of coal for long distances at low rates, necessitating heavy empty running, in some cases, has the effect of adversely affecting economic railway working, but the railways in India being constructed for the benefit of the country the old maxim laid down that 'maximum of traffic should be carried at the minimum of profit,' should not be neglected.

CHAPTER III.

LOCAL TRAFFIC *versus* FOREIGN IMPORTS.

It may be felt at the present moment by the railway authorities in India that the reduction in the rates for coal, should be made good by enhancements in the charges for other commodities or in other words, the rates for other articles should be enhanced, where the traffic can bear such enhancements. This may perhaps be the reason for raising the classification of certain articles. But generally the practical application of the theory 'to charge what the traffic will bear' becomes '*charge, what in the judgment of the railway authorities concerned*, the traffic will bear'. Since the visit of the late Mr. T. Robertson to this country, there have been reductions in the rates over Indian Railways, but if the history of the reductions is traced and the matter is analysed it will be seen that the reductions have been confined to competitive points, specially to and from the Western and the Eastern ports to and from the Upper provinces, particularly for export and import goods (*viz.* Export——grain and seeds, imports——iron, kerosine oil, piece goods and foreign sugar). The reductions have been about 10 to 15 per cent. in some cases, but there does not appear to have been much done towards reduced or low rates to develope the internal trade.

RATES FOR INDIGENOUS SUGAR

Instancing in the case of sugar, it is observed that the railway rates from the ports for foreign sugar have been considerably lowered, while the object of the Government is to encourage the indigenous productions. It is noticed that the railway rate for sugar from Luckeserai to Cawnpore——422

miles——is Re. 0-7-11 per maund or ·225 pie per maund per mile, whereas the rate for the same commodity from Howrah to Sutna——615 miles——is Re. 0-8-1 equivalent to ·157 pie per maund per mile) or the railway company's charge for 193 miles extra haulage of the foreign goods is but 2 pies, as compared with their charge on the indigenous production from Luckeserai to Cawnpore.

Of course from the railway point of veiw, the conditions governing the Howrah-Sutna low rate are different to those attaching to the local rate from Luckeserai to Cawnpore. In the case of the former, there is the existence of competition between the Calcutta and the Bombay ports, whereas in the case of the latter, the charge has been fixed on the principle 'Charge, *what the railway authorities think*, the traffic will bear'. Is it not incumbent on the Railway Board to see that the reductions in the rate for the imported article does not adversely affect the interests of the same article produced in India? It may also be interesting to point out that while the G. I. P. Railway charge sugar from Bombay to Cawnpore——840 miles——at Re. 0-13-6 per maund, their rate for the same commodity in the case of the indigenous production from Cawnpore to Akola——649 miles——is Rs. 1-2-4 per maund; thus showing that the Indian Railway rates generally are not very favourable to the country produce.

The reply to this will be that it is the old cry of home produce *versus* foreign imports, raised by the farmers in England year after year. and that Railway Companies in that conntry have shewn that unless they charge what one calls preferential rates on foreign produce, steamers would carry the traffic; but in India, the conditions are different and the Railways are constructed by the Government for the benefit

of the country, and it should be the first care of the Railways in India that the country produce is not prejudiced by their rates, and that they do not charge relatively higher rates for the indigenous production, in comparison with the rates levied for the very same commodity, when imported. There has gradually developed a regular and fair trade in *country* piece goods, between the Bombay Presidency and Calcutta, but the bulk of the traffic is yet allowed to be carried by steamers, whereas a large number of wagons carrying coal from the Bengal Coal Fields to the Bombay Presidency return empty. Cannot in this particular instance, the minimum of one-sixth pie be infringed, and one-tenth pie rate quoted to attract the *country* piece-goods traffic to the railway in order to assist the local trade and at the same time to give return loads to the wagons? A similar low rate has secured to the railway some traffic in gunnies from Calcutta to Bombay. In the case of traffic from the Calcutta direction, the one-tenth pie rate has been found suitable and it is, therefore, difficult to understand why a similar quotation from the opposite direction, in which a large number of wagons are returning empty, can not be sanctioned by the Government, as a special case. Is it not that on the East coast Railway, the articles, on which the one-sixth pie minimum is generally applicable, were given the benefit of the one-tenth pie minimum because of water competition?

Inter-Provincial Traffic.

In times of scarcity, the railway rates were reduced for Burmah rice from Calcutta and Bombay to the affected parts in the Upper Provinces, but no action appears to have been taken to develope a regular traffic, say in rice from Bengal to

those parts, with minimum railway rates, during all seasons, or from the Tirhoot and the provinces served by the metre-gauge north of the Ganges to Central India, Rajputana, etc. Has not there been indication of Bengal rice finding a market in the Rajputana? Should not this new traffic have the lowest possible rates?

CHAPTER IV.

CONTROL OF RAILWAY EXPENDITURE BY RAILWAY BOARD.

It is indeed, very gratifying to the public to note from the Administration Report on the Railways in India for the calendar year 1909, that with a view to a more effective control over revenue expenditure, the Railway Board issued orders in June, 1909, requiring the careful monthly examination by the different Railway Administrations of the progress of expenditure, as compared with the Budget grant, and the submission to the Board of a monthly return showing the results of this comparison. For the same purpose, the Railway Establishment Rolls and Working Estimates have been revised by the Railway Board, and expenditure on special works are to be shown separately from the ordinary recurring charges so that a control may be exercisd from year to year from each class of expenditure. But much remains to be done in the way of curtailing expenses on works, that are not essentially necessary; such as heavy renewals, alterations in buildings, etc., that do not really require any alteration in the interests of the public or for purposes of their safety. Year after year, there are large sales of condemned railway materials by all Railways in India and specially low rates are granted for these condemned railway materials for their carriage after they have been sold, If condemned railway materials merely constitute articles, which have been condemned after long use as unsuitable for further service, well and good; but who knows there may be cases, where railway materials ordered have never been used and are sold as condemned stores. It is not improbable that such cases may happen owing to circumstances leading to change in the conditions. The most important point is that the Government should exercise an effective check in such cases

by the appointment of Government Stock Verifiers, independent of companies, who will go into the stores and materials supply of the State and Guaranteed lines, and put a stop to any case, where materials ordered are not used or are kept out of use for some time and subsequently depreciate in value.

Every year, there is a large programme of Railway construction, including proposals for bridging of rivers. When Railways are projected to tap a new tract of undeveloped country or to bridge a river entirely for the public need, such a project ought to give way to all others, but cases may happen, where under the garb of putting forward public interest, proposals may be thurst upon the Government to oust a rival route or to place a particular railway or route in better position in competition with alternative routes or rival ports. There is the case of the Aligarh-Muttra Railway. The tract of land proposed to be served by this projected railway is well surrounded by railways on all sides, within reasonable distance of one another, but the B. B. and C. I. Railway will apparently want to work this line to link the Nagda-Muttra system with the O. & R. Railway, so as to provide through broad gauge route from Aligarh to Bombay, without the intervention of a Calcutta line, and the G. I. P. Railway on the other hand, may perhaps want this line in competition with the B. B. & C. I. Futher, the project may mean the provision of another bridge over the Jumna. Then, again, there is the proposal for a separate 5' 6" gauge track from Muttra to Hathras with a mixed gauge over the Jumna Bridge at an estimated cost of Rs. 24,70,637. *Is this essentially necessary ?* Does not the Hathras route already carry the big grain traffic from the Oudh and Rohilkhund to Bombay even with the break of gauge at Sarbarmati, although there exists a direct broad gauge route *via*

Agra, with very slight difference in mileage. Before the Railway Commission at Kurachee, held during the visit of the late Mr. T. Robertson, Special Railway Commissioner, the evidence given on behalf of the B. B. & C. I. Railway was that the break of gauge at Sabarmati was no impediment and that the transhipment operation meant very little delay to traffic.

CHAPTER V.

PORT COMPETITION.

CALCUTTA *versus* BOMBAY.

The real competition between the Calcutta port and the Western Port of Bombay began with the opening of the Suez Canal, and on the completion of the connection between the Rajputana-Malwa and the Bombay-Baroda and Central India Railways at Sabarmati many years ago; and the matter went up to the Secretary of the State, as on the one hand Calcutta clamoured for lower railway charges on export trade, on the ground of cheap railway working, while Bombay, labouring under the disadvantage of higher railway working expenditure, owing to steep gradient, etc., claimed that the natural advantage of the geographical position of Bombay as a port, made it the proper outlet for India's foreign trade. After years of discussion and deliberation, the present maxima and manima rates were laid down, as the best method of settling the dispute. The competition between the Calcutta and the Bombay ports does not, however, yet appear to have ceased, but from the Goods Tariffs of the different railways, it would appear that some sort of arrangement has been come to between the competing lines. At Delhi, Hathras, and Agra, the rates for the principal commodities excepting grain, are the same to and from the ports of Calcutta, Bombay and Kurachee. From Cawnpore, the rates to Calcutta and Bombay differ in proportion to the distance, apparently on the basis of rock bottom difference, within the minima rates limits. For grain and seeds, the lowest rates sanctioned by the Government have been quoted by the lines serving the different ports from the junction points such as Delhi, Ghaziabad, Agra, Cawnpore, Jubbulpore, Manikpur, and Katni. The area affected by the Calcutta-Bombay competition may be said to be as follows :—

(*a*) Allahabad to Kalka on the East Indian Railway.

(*b*) Fyzabad to Ghaziabad on the Oudh and Rohilkhund Railway.

(*c*) Rai Barielly to Lucknow on the Oudh and Rohilkhund Railway.

(*d*) Naini to Jubbulpore on the East Indian Railway.

(*e*) The whole of the Rohilkhund and Kumaon Railway.

(*f*) Cawnpore-Achenara section of the Rajputana Malwa Railway.

(*g*) The section of the Bengal and North-Western Railway, Barabanki to Nawabgunj, and Gonda to Bahraich.

But while the rates at the junction points have been made low, the quotations to and from the points short of the junctions are generally higher, except perhaps in the case of traffic over the East Indian Railway, which abides by the principle of the differential rule, which lays down that the charge for lesser distance must not be higher than that for the greater. This rule does not obtain on the English railways, but it is widely observed on the American lines.

The Railways, which fix their rates on higher basis between places short of competitive points, apparently justify their action on the ground that 'why reduce rates where there is no competition.' Such a policy may be praised in the sense that these lines are careful not to cut down rates unnecessarily, but the real soundness of such a policy from the traders' point of view is questionable. A trader in Delhi despatching grain to Bombay, for local consumption or export, has the benefit of the rate of Re. 0-7-1 per maund over the Bombay-Baroda Central Indian Railway, the distance for which traffic is carried in this case, being 848 miles, whereas a grain merchant trading

say at Garhi-Harsaru, which is 822 miles from Bombay, has to pay a rate Re. 0-8-4 per maund or Rs. 2-2-0 per ton greater than the charge from Delhi to Bombay. Surely, whatever may be the reason for placing Garhi-Harsaru in this position, this kind of rate making is certainly not encouraging to the Garhi-Harsaru traders, who are thus at a particular disadvantage in the matter of offering quotations to the Bombay mart as compared with the Delhi grain merchants.

Reasonable competition between the Calcutta and the Bombay ports is always to be encouraged, although under present conditions through rates are yet combinations of the special low rates over one railway and the highest rates over another. The railway getting the longest length to the port quotes the lowest rates, whereas the railway having a short lead quotes the highest maximum rates possible up to the junction. This practice obtains over all railways in India, the object being to recoup the railway on which the traffic originates for the loss of such traffic at the nearest junction. The booking railway in such cases has to supply the rolling stock and to perform all terminal services at the despatching point. In many cases a terminal charge is also levied by the railway having the shortest lead. Seeing that most of the railways in India are now state lines, it seems questionable whether between such lines division of through rates on mileage should not be adopted, special reasonable allowances being made when the lead is comparatively very short.

Not very long ago, the Calcutta traders asked for minimum rates for the East Indian Railway, serving the Calcutta port, being made lower than on other lines. Various arguments were brought forward, in support of this proposal, the main one being that the Calcutta lines are at a disadvantage in the matter

of steamer freight to the continent as compared with the low steamer charges from Bombay and that, therefore, while Bombay enjoys the advantage of its geographical position, Calcutta should be allowed the benefit of the low working expenses, which are natural to the East Indian Railway for many obvious reasons. Another strong argument used was that in the case of this railway, there was heavy empty running of wagons from the Upper Provinces to Bengal owing to the traffic from the Bengal coal fields to these Provinces being greater in weight than the traffic from the Northern India to Bengal. While various routes and railways are open, with differing conditions governing the working expenses, the proposal to fix the charge at a higher or lower basis on the score of cost of transport is out of question, as in that case a longer route, with favourable circumstances in the matter of working expenditure, would shut out an alternative route offering the shortest distance, but with higher cost of transit.

The question of giving loads to return empty wagons is indeed an important one; but this is a matter that does not *now* affect the East Indian Railway *alone*. Since the development of coal traffic, the Great Indian Peninsula and the Bengal Nagpur Railways have also to haul wagons empty in one direction. If the East Indian Railway claim a low rate from say Delhi to Calcutta on the ground that they are hauling empty wagons in this direction and that anything loaded in these wagons means money, however small it may be, why cannot the same argument be used by the Great Indian Peninsula and the Bengal-Nagpur Railways, who also return a number of empty coal wagons from Delhi to the Bengal coal fields *via* Katni Murwara. Taking all things into consideration it would seem wise to continue to limit the Calcutta-Bombay competition by the existing maxima and minima rates.

KURACHEE *versus* BOMBAY

The late Mr. Robertson, C. V. O., while in India as special Railway Commissioner ten years ago, settled a long standing dispute between the metre-gauge system to Kurachee and the B. B. & C. I. Railway, and it was held that the latter system should not resort to blocking rates to Kurachee *via* Kuchman Road or Marwar Junction. It was further decided that to the Kurachee Port the same rates were to be quoted from the B. B. & C. I. Railway stations Ajmere and East of Ajmere including places like Agra, Delhi, etc., as to Bombay, the division of the Kurachee rate being on mileage. This seems to have put matters on a satisfactory footing.

The metre gauge system is at the present moment seeking entrance into Kurachee on 3′ 3⅜″ gauge by the construction of a metre gauge link from Hyderabad (Sindh) to Kurachee over a length of 110 miles side by side with the broad gauge, and full remarks on this scheme have been made in the last Chapter.

OUDH AND ROHILKHUND RAILWAY, SHIPMENT TRAFFIC.

The Oudh and Rohilkhand Railway, the natural outlet for whose traffic is the Calcutta Port, seems to have cast its lot with the East Indian Railway, and special through rates on a low scale are in operation between stations on the Oudh and Rohilkhand Railway and Calcutta *via* Moghalserai Junction, the object apparently being to obtain long hauls over the Oudh and Rohilkhand Railway, whose rates to the Junctions for Bombay are their ordinary scale or class rates plus maximum terminals. Besides securing long lead in despatching its traffic to the Calcutta Port the Oudh and Rohilkhand Railway wagons loaded to Calcutta are utilised in carrying back coal to that system, thus their rolling stock is well utilised in both directions.

But some curious results are seen in their nett revenue when certain figures are analysed. Chandausi, on the Oudh and Rohilkhund Railway, is the most important grain mart on that system and sends the biggest traffic. When grain from this place goes to Calcutta it takes the Moghalserai route, and if the traffic goes to Bombay, it may be routed either *via* Aligarh or *via* Bareilly and the Kasgunj line. The following statistical results in working will be interesting to examine :—

(*a*) On Calcutta Traffic *via* Moghalserai :

	Rs.	A.	P.	
O. & R. Railway freight per ton ...	6	6	0	
O. & R. Railway statistical cost of hauling the traffic at 3·35 pies per ton mile	6	12	0	
Nett loss of ...	0	6	0	per ton.

(*b*) On Bombay traffic *via* Bareilly Junction :

	Rs.	A.	P.
O. & R. Railway freight per ton ...	3	6	0
O. & R. Railway cost of haulage per ton	0	12	3
Nett gain ...	2	9	9

(*c*) On Bombay traffic *via* Aligarh and Hathras :

	Rs.	A.	P.
O. & R. Railway freight per ton ...	4	1	9
O. & R. Railway cost of hauling per ton	1	2	1
Nett gain ...	2	15	8

Another advantage is that in the case of Bombay traffic, besides the O. & R. Railway gain being enormous, they would get their rolling stock released either at Hathras or at Bareilly because of break of gauge.

It is not at all advocated that because of these figures of loss or gain, which are problematical, being based on mere statistical cost of working, which again is only a rough average, the O. & R. Railway should alter their policy and join hands with the Bombay lines. Such a course could not perhaps be paying to the Oudh & Rohilkhund Railway, if the whole of their traffic is taken into account, but nevertheless these figures show that the Oudh and Rohilkhand Railway rates require careful examination on the part of the Railway Board especially as this line has been lately yielding very low returns on capital outlay.

Since the opening of the through route to Bombay *via* Bareilly and Kasgunj *via* the Rohilkhund and Kumaon Railway, and the Bombay-Baroda and Central India Railway there has been a change in the policy in the matter of traffic from the Rohilkhund and Kumaon system, whose interest in respect to bulk of their traffic is to divert it to Bombay in order to secure a longer lead over its system up to Kasgunj. An examination of the rates for grain and seeds, iron, sugar, piece-goods and kerosine oil, to and from both the ports of Calcutta and Bombay, shows that while from stations on the Lucknow-Pilibhit length, the railway rates, to and from Calcutta, are still decidedly lower than to Bombay, the charges from other portions of that line have been reduced to the Western port—thus greatly minimising the margin of difference in favour of Calcutta, causing diversion of traffic to the Western Port. The Rohilkhand and Kumaun Railway rates for export and import traffic, as they stand at present, cannot, however, be said to be preferential to any particular port.

RATES FROM THE B. & N. W. RAILWAY TO CALCUTTA AND THE BRIDGING OF THE GANGES AT MOKAMEH.

As to the B. & N. W. Railway rates to Calcutta, they have special through rates *via* Mokameh Ghat in conjunction with the E. I. Railway. Their rates for stations Gonda and westwards are governed by Bombay competition, while on the other hand there is the river competition to be faced. Anyhow for traffic from the B. & N. W. Railway to Calcutta there are now more than one route open. In the course of enquiry in connection with the Ganges Bridge Committee suggestions were made to bridge also the river at Mokameh—but while the Sara Bridge is under construction, it must be a drain on the public funds to provide money for another bridge at the same time, and therefore why cannot equal rates be quoted from the B. & N. W. Railway to Calcutta.

(1) *Via* Mokameh.

(2) *Via* Katihar and Godagari.

(3) *Via* Katihar and Sara.

So that if one route is interrupted owing to the vagaries of the river, the two other alternative routes will be open to the public with equal rates, and it is seen that even the Sara route can maintain the same rates, within the present minimum, as are at present quoted *via* Mokameh. This will mean that the public will have more than one string to the bow. The present rate for grain, say from Gonda to Calcutta, *via* Mokameh Ghat is Re. 0-7-0 per maund, the distance by this route being 585 miles. The distances *via* the Katihar-Godagari and the Katihar-Sara routes are 656 and 761 miles and the lowest rates, within the Government minimum, that can be quoted by these routes are Re. 0-5-6 and Re. 0-6-4 per maund respectively against Re. 0-7-0 the rate *via* Mokameh Ghat. Therefore, equal rates by all routes can be maintained without infringement of the Government minimum.

There is, however, one thing to be borne in mind that the bridging of the Ganges at Mokameh might result in the abolition of the ferry charge, which varies from 13 annas 7 pies to Re. 1-6-4 per ton, and further the route *via* Mokameh is 12 per cent shorter than the Katihar-Godagari route, and, therefore the lowest rate of freight can only be maintained by the Mokameh route. Under these circumstances it may be useful to construct the bridge in the interest of the public when funds are available. The sum spent on the bridge would soon come back to the public by the profit they would make by the abolition of ferry charge.

MADRAS PORT *versus* BOMBAY.

The Madras Port, owing to its natural disadvantage, is not in a strong position to compete successfully with Bombay, except in the territories traversed by the railways serving the Madras port; the position of this latter port has, however, been lately strengthened to a certain extent, owing to amalgamation of the Madras and Southern Maharatta Railways, in regard to traffic to and from the Southern Maharatta country. At one time, apparently due to the difficulties encountered at Madras, as compared with the port of Bombay, it was obviously found convenient to ship goods to Bombay and thence to rail to Madras *via* Raichur, and apparently with this object Port to Port rate of Re. 0-11-11 per maund was quoted for commodities like beer, alum, dyes, brass, chalk, copper, German silver, haberdashery, hides, iron articles, machinery, stationery, &c., &c., between Bombay and Madras, and this rate still appears in the Goods Tariffs of the Madras and Southern Maharatta Railways. As already observed, the amalgamation of the Madras & S. M. Railways has placed the Madras port in a favourable position in competition with Bombay, in respect to

traffic to and from that part of India, known as the Southern Maharatta country. The distance from Bijapur to Bombay, *via* Hotgi, is 351 miles, and the rate for grain, from Bijapur to Bombay is Re. 0-8-8 per maund *via* Murmagao Harbour, and Re. 0-10-0 per maund *via* Hotgi. The quotation of Re. 0-8-8 per maund *via* Murmagao includes the proportions of the Bombay Steam Navigation Company, West of India Portugese Railway, and the Madras and S. M. Railway—but the grain rate from Bijapur to Madras, 514 miles, is Re. 0-8-7 per maund.

MARMAGAO PORT, AND COMPETITION BETWEEN S. M. RAILWAY, W. I. P. ON THE ONE SIDE AND THE G. I. P. ON THE OTHER.

It will thus be seen that the railway administration, on which Bijapur is situated, being interested in the Madras Port, where they get a lead of 514 miles to Madras, against 59 miles to Hotgi and 221 miles to Castle Rock, the junction between the S. M. and W. I. P. Railways, the charge to Madras is Re. 0-8-7, while the quotation to Bombay port is Re. 0-8-8 by the cheapest route, although the distance by the all-rail route *via* Hotgi is 357 miles or 157 miles less than to Madras. Here Madras scores in the matter of railway rates, simply because Bijapur is situated on a railway serving the Madras port. The G. I. P. Railway, should they like, can obtain a through rate of about Re. 0-4-6 from Bijapur to Bombay *via* Hotgi by quoting the lowest rate permissible, *viz.* $\frac{1}{10}$th pie minimum rate from Hotgi to Bombay, and allowing the Southern Maharatta for 59 miles their maximum rates; but this would open out a competition and one does not know where it will end.

The history of the competition between the S. M. and the G. I. P. Railways for traffic from the Southern Maharatta country

is a very old one. The matter was different when the S. M. Railway was a separate undertaking and even then severe competition took place between the G. I. P. on one side and the Southern Maharatta, West India Portugese and Bombay Steam Navigation Company on the other. From the Tariffs of the S. M. Railway for various periods, it would appear that territorial divisions between the Hotgi, Poona, and Marmagao routes for Bombay traffic were agreed upon and cancelled several times. Further, the interests of the Portugese Government in the West India Portugese Railway have to be considered, and it becomes more a political question than one of 'Railway Economics,' which is the subject matter of this work. But whatever may be the reasons underlying the routing of traffic to Bombay from the Southern Maharatta country *via* Marmugao Harbour against all rail routes, there is no reason why such anamolies between the Madras and Bombay rates should exist, when the distance is decidedly in favour of Bombay, unless the public of Bombay have recognised that with equal rates or even though the rates to Madras may be favourable, Bombay can hold its own on account of its natural advantage in connection with export and import traffic, owing to cheap steamer freight and port dues, etc.

CHAPTER VI

DEVELOPMENT OF LOCAL TRAFFIC. 8358.

Further remarks on the question of port competition are reserved for the present, but it may be pointed out that what is most essential is that an enquiry should be made by every railway in India as to how far port competition has affected the trade of the interior. Local trade of the country, which is free from influences of exchange, foreign market fluctuations, is very important and in a country of long railway leads like India, where traffic can be hauled in the same wagon for nearly 2,000 miles, there appears to be scope for development of trade between the North and the South and the East and the West. In making these remarks it is not for a moment claimed that the object is to discourage low rates, for instance for wheat for export, because, under normal conditions, India has always an enormous quantity of wheat in excess of its local requirements. And low rates are necessary in the interests of the commerce of India to allow Indian wheat and flour to find market in foreign countries on an equality with the production of other nations. What is aimed at is that low rates for a commodity like sugar, when imported, are harmful. It is also urged that something should be done with the lowest minimum rates to place the production of one province into another. While large quantities of flour are exported from India to Burma and other places in the East, there is not much export of his commodity for instance from Delhi, Cawnpore, Allahabad or from Calcutta to the interior of the Deccan or to the Madras Presidency, where flour is an article of rarity. It is true that 'Rudyard Kipling' in his stories on the 'Southern Indian famine' and 'Bukree Scott' has said that the people of the South clamoured for rice and rice only they knew and

turned their faces with disgust on the hard food grains of the North. But in the same way, as the wheat eating population of the Northern India have now got accustomed to rice taking, who knows that if flour is made cheap in the Deccan, the same result might be seen there. The Railway rates for wheat, flour, seeds, oil, oil-cake, oil-seeds, jute, cotton, rice, &c. have been fully discussed in the chapter headed "Development of agricultural productions and Railway Rates."

Then again for articles, which are at the present moment not of much importance to the railways from the point of revenue the traffic might be encouraged by low rates. The items of trade herein referred to are such as country soap, country boots, country yarn, works of art, etc. Another article which is imported into this country, specially into the Calcutta Port, is salt. Salt is also produced largely in India, and it is true that the salt trade is in the hands of the Government, but the Government has, during recent years, shown great magnanimity in the reduction of salt duties. Sir Edward Baker, when Financial Member, went further by urging for the same railway rates for salt as for coal. This reduction in the rates was, however, not given effect to apparently on the ground that it would have meant considerable loss to the railways, but nevertheless there are points where railway rates for salt can be reduced within the present minimum with advantage to the people and to the railways. The imports of Khewra, Sambhar, Pachpadra or Kharagoda salt into Bengal are nominal, and if railway rates are brought down to the minimum of $\frac{1}{10}$th pie for this article, say to Calcutta, there would be the chance of development of trade, which does not now exist, and the railway wagons returning empty from Upper India would carry this traffic.

It may be remarked that a great deal more has been said in the matter of low rates for the local trade and development of local industries than perhaps may be considered necessary. What has so far been written, does not go beyond what the late Mr. T. Robertson, C. V. O., Special Railway Commissioner for India, stated. It will be interesting to quote the following from his report:—" I do not think sufficient attention is paid to the creation and development of local industries. The more numerous the local indnstries are along a line of railway the greater always is the prosperity of that railway. They not only give their products to the railway to carry, but their presence creates a great deal of traffic in passenger and goods, which but for the local manufactories, would never come to the railway at all. Every encouragement should, therefore, be given to the opening of local industries by offering special facilities in the way of rates and accommodation." As previously observed, it does not appear that railways in India have done much during the last ten years in the direction indicated in the few lines quoted above. The late Mr. T. Robertson remarked that considerable reductions in the railway rates were possible, and that they were necessary more especially in regard to the long distances for the proper development of traffic, and, therefore, suggestions made in this chapter for low rates for long hauls from the North to the South and between the Eastern and the Western districts are not without precedent.

Local manufactories of cotton, oil, flour, leather, etc., have been started in India, but these are yet confined to the most important trade centres only. There has been the undoubted awakening of interest amongst the Indian people in the matter of development of the trade and resources of India, and it is, therefore, likely that industries may grow up at many places if

a low rate of railway freight is given. Why cannot flour and oil be manufactured largely in the United Provinces, where there is an abundant supply of wheat and oil seeds? The trade would require cheap railway rates for flour and oil on the one hand, and machinery, mill stores, and building materials on the other. If flour and oil mills become common in the Northern India, the agricultural classes would benefit by the by-products *viz.*, oil-cake, bran, bhoosa, &c. Although there are special scales of rates for flour on various railways, oil is generally charged at the ordinary classified rate, which is not low enough for traffic for long distances. It may be said by railways that low rates have not been quoted because there is no traffic, but if low rates are offered for oil, surely oil mills will be started in the United Provinces, and the industry would undoubtedly receive the warm support of the Government.

The Great Iron Works of India are under construction at Kalimati on the B. N. Railway, and the action of the Government in offering a rate of $\frac{1}{18}$th pie per maund per mile for raw materials and for certain manufactured articles to and from the Iron Works, in which such a large capital has been sunk by Messrs. Tata and Sons of Bombay, is very commendable, and it is doubtful whether any other Government would have given such liberal assistance. The B. N. Railway, too, are to be congratulated upon so readily agreeing to such a low quotation. In the prospectus of this Iron Company, issued sometime back, special attention was drawn to this low rate. Indians ought to be grateful to the Government, and the B. N. Railway for this consideration shewn to a purely Indian enterprise. The extent of this liberal concession can best be realised when it is shewn that for carrying one maund over 45 miles, the charge would be one pice or three pies.

DIMINISHED RESULTS IN THE AVERAGE LEAD OF GOODS, AND PASSENGER TRAFFIC.

On page 69 of the Railway Board's Administration Report on Railways for 1909, are published the main results of working of all Indian Railways treated as one system, and a comparison of figures is given for 5 years from 1905 to 1909. The figures are most interesting. The gross earnings have risen from Rs. 41,69,92,000 in 1905 to Rs. 47,06,38,000 in 1909 or nearly 13 per cent., and the total working expenses have gone up from Rs. 19,95,33,000 in 1905 to Rs. 26,38,48,000 in 1909 or 32 per cent. Consequently, the percentage of working expenses to 'gross earnings' has gone up from 47•85 per cent. to 56•06 per cent. But at the same time it is also observed that the average rate charged for carrying a ton of goods one mile has risen from 5•19 pies in 1905 to 5•78 pies in 1909, and the average fare charged per third class passenger per mile has practically remained the same. The average fare paid by a third class passenger in 1905 was to 2•30 pies against 2•28 in 1909. *The stationary figure in the average fare for third class passengers, and the increase in the rate for carrying a ton of goods one mile cannot be regarded as very encouraging to long distance traffic.* This is somehow corroborated by the fact that while the average miles, a third class passenger was carried, were 40•92 miles in 1905, the average miles in 1909 were 38•74. Similarly, in the case of goods traffic the average miles a ton of goods was carried were 176•60 in 1905 against 153•37 in 1909. These diminished results in the average lead specially in the case of goods traffic, in spite of the fact that there has been a large development in the long distance coal traffic, require careful consideration and go to show that in the matter of commodities other than coal, there must have

been a big drop in the long distance traffic, in which there appears to be every margin for development, if low sliding rates are quoted. A reference has again to be made to the report of the late Mr. T. Robertson. It was suggested by him that the considerable reductions in the rates that he recommended should be on a sliding scale, the percentage of decrease starting at a comparatively low figure for short distances and increasing as the distance grew greater; he further remarked that the practice that prevails in India of calculating rates on the distance to the junction only, was, to some extent, responsible for a good many of the high rates obtaining, as the traffic only gets the benefit of sliding scale of rates on the local distance to the junction instead of on the whole distance for which the traffic is carried. It was also emphasised by him that if the long distance traffic was to be developed the charges should be calculated on the through distance at the reduced sliding scale of rates.

CHAPTER VII.

Alternative Routes.

It is not often that promoters of new railways put forward their schemes, on the ground that they would offer alternative routes to the existing ones or filch traffic from other routes; but it almost invariably happens that new railways, unless they are purely feeders to some trunk lines, act as competitors. In the past, when new railways have been opened, severe competition has followed, resulting in cutting down of rates, but eventually ending in territorial divisions, pooling arrangements or other amicable settlements between railways and in putting up of rates to the level of those before the competition began. The agreements may take any one of the four forms:—1. Agreement to maintain rates. 2. To divide the field. 3. To divide the traffic. 4. To divide the earnings.—The last three are commonly known as pools.

The Agra Delhi Chord was constructed by the State to serve the tract of land lying west of Jumna, and apparently to give Bombay lines entrance into Delhi on broad gauge, and the East Indian Railway seems to have been allowed to maintain equal rates, between Agra and Delhi; but while the same charges are in operation by the East Indian Railway route and the Agra-Delhi Chord route, the former has lost great bulk of through traffic as it would appear from the through rates, which are cheaper *via* the A. D. C. Railway, for the G. I. P. stations. Therefore, the new chord line has acted as a great competitor to the East Indian. The advantages to the public in Agra and Delhi have, however, been great through this new line. But in connection with this railway, one thing cannot be passed over without comment:—it is that enormous sums of

money have been spent in Agra, since the opening of the new line in several new works, and the East Indian Railway has built a new bridge for which money was provided for by the Government. There are three lines running into Agra, *viz.*, the East Indian, the Great Indian Peninsula and the Bombay-Baroda and Central India. Each Railway apparently wants to boom Agra, but all three are state lines leased to different companies for purposes of working. Not many years ago, Agra had only three stations, *viz.*, Agra Cantonment, Agra Fort and Agra Junction, the fort station being the main passenger station; but now the East Indian Railway has two stations, the Great Indian Peninsula Railway four stations and the Bombay-Baroda and Central India Railway two, and besides several works, such as loops, diversions, tunnels have been constructed. Two Railway bridges, side by side, within almost stone's throw of one another, is perhaps an unique sight in India. The needs of Agra may be great; but should Agra alone have the right make a demand for large sums of money on the Government railway fund for all India?

From the point of view that any one railway or route having the monopoly of traffic means prejudicial to the interests of the public and the trade, alternative routes are essential. The benefit to the trade, in the case of coal traffic, by giving independent access to the Bengal-Nagpur Railway into the Coal Fields of Jherriah, and by the provision of equalization of coal rates from the starting point to destination by all alternative routes, is incalculable. But the question of equal rates by alternative routes for all articles of merchandise has not been insisted upon by the Government; for instance, while for coal traffic, the Bengal Nagpur and the Great Indian Peninsula maintain the same rates *via* Katni-Marwara, as those in force by the much shorter route between the Jherria Field and Agra and Delhi

via the East Indian Railway ; the traffic in merchandise other than coal from say Calcutta to Agra and Delhi cannot be carried by the alternative route *via* Katni-Marwara, at the same rates as are in operation *via* the East Indian Railway. So long as the Government minima rates are to be observed, equal rates between the points named are not possible for the low priced commodities, including grain and seeds, but for articles of merchandise like piece-goods, haberdashery, stationery, oilmanstores, and a hundred other items, on which ordinary class rates are charged, equal rates *via* the Katni route to those *via* the East Indian Railway are possible. But these are things, in which the public have no voice nor any hand, and the matter is left entirely to the railways to settle between themselves.

The Great Indian Peninsula and the Bombay-Baroda and Central India offer alternative routes between the same points in many instances but in most cases, territorial divisions have been agreed upon instead of equal rates by the routes of the two Railways. For instance between—

(1) Delhi and Bombay.

(2) Muttra and Bombay.

(3) The Punjab and Bombay.

(4) Cawnpore and Ujjain.

(5) Agra and Ujjain.

(6) Delhi and Ujjain.

(7) The United Provinces and the Punjab to the country lying north of Ujjain.

(8) Between Bombay and the Nimar District and the Indore territory.

Both the lines offer alternative routes, but the two railways possessing alternative routes between the same points do not have the same rates. In regard to traffic between Bombay and Delhi, and the places beyond Delhi there are the following routes available :—

(*a*) By the B. B. and C. I. Railway, *via* Sabarmati.

(*b*) *Via* Agra Delhi-Chord and the G. I. P.

(*c*) *Via* Agra-Delhi Chord, Muttra, Nagda and the B. B. and C.-I. Railway.

But the following extract from the tariff of the Bombay-Baroda and Central India Railway shows that territorial divisions have been agreed upon between the B. B. and C. I. and the G. I. P. Railways :—

The following are the cheapest routes for all traffic to and from Bombay :—

		Cheapest route.
(*a*) Between Bombay and Delhi	Kerosine oil, piece-goods twist and yarn, and Sugar, *from* Bombay.	*Via* Itarsi and Agra by the A. D. Chord line.
	All other goods traffic to and from Bombay.	*Via* Sabarmati.

(*b*) Between all Delhi-Umballa-Kalka Railway stations and stations on the Kalka-Simla Railway, and Bombay	Grain and common seeds, *to* Bombay	*Via* Delhi and Sabarmati.
(*c*) Between stations on the Khurja-Hapur Railway (excluding Hapur) and Bombay	All other goods traffic to or from Bonbay.	*Via* Delhi (by the Agra-Delhi Chord Railway) and Itarsi.
(*d*) Between stations on the Delhi-Shahdara (Delhi) Saharanpur Light Railway (excluding Delhi Shahdara)		Ditto
(*e*) Between stations Chola and Delhi-Shahdara (except *via* Ghaziabad) and Bombay	Kerosine oil *from* Bombay.	*Via* Delhi (by the Agra-Delhi Chord Railway) and Itarsi.
	All other goods traffic to or from Bombay.	*Via* Delhi and Sabarmati.

(*f*) Between *via* Ghaziabad and Bombay except for traffic to and form stations Dasna to Kankhather on the Ghaziabad-Moradabad Section and Kharkhauda on Hapur-Meerut Section of the Oudh and Rohilkhand Railway, for which see clause (*g*) below ...	Grain and common seeds, to Bombay.	*Via* Delhi and Sabarmati.
	All other goods traffic to or from Bombay,	*Via* Delhi (by the Agra-Delhi Chord Railway) and Itarsi.
(*g*) Between *via* Ghaziabad and Bombay for traffic to and from stations on the Ghaziabad-Moradabad Railway, *viz.* Dasna, Pilkhuwa, Hapur, Babugarh, Bagsar, Garhmuktesar and Kharkhauda on Hapur-Meerut-Section ...	Kerosine oil, from Bombay.	*Via* Delhi (by the Agra-Delhi Chord Railway and Itarsi.
	All other goods traffic to or from Bombay.	*Via* Delhi and & Sabarmati.
(*h*) Between all stations on the Southern Punjab Railway and Bombay ...	Kerosine oil, *from* Bombay.	*Via* Delhi by the Agra-Delhi Chord Railway.
	All other goods traffic to or from Bombay.	*Via* Delhi and Sabarmati.

The public have not the advantage of having more than one route open to them at the same rate, and, therefore, the question of monopoly of one route is not overcome. A piecegoods merchant in Delhi cannot order his goods from Bombay by the shortest route over the B. B. & C. I. Railway *via* Sabarmati, as the cheapest rate are obtainable by the Agra Delhi Chord and the Great Indian Peninsula route. These divisions of territories are varied from time to time, but it is seldom that equal rates by alternative routes are arranged. The arrangement might be a good one so far as Railways are concerned, but the public have not more than one route open to them at the cheapest rate.

CHAPTER VIII.

Statistical Results.

The following figures extracted from the Administration Reports issued by the Railway Board, give particulars of the percentage of net earnings on capital outlay, average sum received for carrying one ton one mile, that is the rate per ton per mile and the average cost of hauling one ton one mile, for the important lines in India:—

	E. I.	E.B. S.	B. & N.-W.	S.M.	Madras.	G.I. P.	B. B. & C. I.	R. M. R.	B.N. R.	O. & R.	N.-W. R. (commercial section.)	
Percentage of net earnings on capital outlay.	9·42	5·02	5·90	3·02	4·20	6·74	8·11	9·74	4·99	4·19	7·33	1905
	8·48	4·99	6·32	3·68	3·21	6·39	8·20	8·35	4·92	4·05	7·77	1907
	7·90	3·92	5·46	3·62	4·28	5·16	6·39	5·98	3·91	2·67	4·69	1909
	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	
Average sum received for carrying a ton one mile.	3·80	6·16	5·58	6·49	6·62	5·87	5·61	5·79	4·61	4·98	4·50	1st half 1907.
	3·71	7·81	5·38	6·21	6·63	5·80	6·16	5·25	4·44	5·09	4·33	2nd half 1907.
	3·52	5·51	5·45	6·51	7·02	5·63	6·70	5·67	3·81	4·46	4·45	1st half 1909.
	3·48	7·22	5·12	5·84	5·24	5·67	6·71	6·47	3·51	5·13	4·54	2nd half 1909.
Average cost of hauling a ton one mile.	1·51	4·61	2·17	3·46	4·49	2.50	2·00	2·81	2·04	3·05	2·34	1st half 1907.
	1·54	4·78	2·18	3·77	4·39	2.80	2·62	3-13	2·07	4·42	3·26	1st half 1909.

The East Indian and the B. B. & C I. Railways (including R. M. Railway.) show the best results in respect to percentage of net earnings on capital outlay. It is, however, noticed that these results were not so good in 1909 as compared with previous years. This was, to a certain extent, due to the rise in the working expenditure, which necessarily resulted in lesser net earnings; but it must also be said that during 1909, for instance on the E. I. Railway, there was a fresh capital outlay of more than one and a half crores, or 20·6 per cent. of the capital outlay during 1909 on all State lines worked by companies—the total amounting Rs. 7,43,83,000, of which 40·9 per cent. was appropriated by the E. I. and B. N. Railways alone. There was a general depression in trade throughout India during 1906-1907, and, therefore, a smaller return on the railway capital is not very astonishing. But at the same time the percentage of nett earnings on capital outlay, for instance on the E. I. Railway, was less owing partly to heavy capital expenditure during 1909 as shewn above. It will be seen from the figures that the average sum received for carrying one ton one mile, or in other words the rate charged to the public per ton per mile, was less on the E. I. R. in 1907 than on any other railways in India. But in 1909 the B. N. Railway average rate per ton per mile came down practically to the same figure as that of the E. I. Railway. The predominance of coal traffic on the E. I. and B. N. Railways has caused low average rates on these two lines than on any other line in India. In 1907, the B. N. Railway rate per mile was 4·61 pies as compared with 3·80 pies on the E. I. Railway during the first half of 1907, but during 1909, specially in the second half, the rates of the two railways were almost the same, the E. I. Railway average charge being 3·48 pies against the B. N. Railway average rate of 3·51 pies. These low average

rates on the E. I. and B. N. Railways do not however prove that their charge on all other descriptions of goods traffic are low and the following instances are given to illustrate this.

The B. N. Railway grain rates for the following distances are as follows, as compared with those of the N. W. and B. B. and C. I. Railways :—

Rate per maund for grain, seeds and pulses : for

	B. N. R.			N. W. R.			B. B. & C. I.		
Miles.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
50	0	2	1	0	1	8	0	1	11
100	0	3	5	0	2	3	0	3	0
200	0	5	8	0	4	2	0	4	8
300	0	7	6	0	5	10	0	6	3
500	0	8	2	0	8	6	0	8	0

It will be seen that the B. N. Railway with an average rate of 3·51 pies per ton mile have *relatively*, higher rates for grain than the B. B. and C. I. or the N. W. Railways, whose average rates per ton mile come to 6·70 and 4·50 pies respectively.

The N. W., B. N., and G. I. P., Railways' *flour rates* compare as follows :—

Rate per maund for flour.

	B. N. R.			N. W. R.			G. I. P.		
Miles.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
200	0	4	2	0	3	7	0	4	0
300	0	6	3	0	5	3	0	5	8
500	0	10	6	0	8	3	0	7	5
800	1	0	8	0	10	11	0	10	0

Here it will be observed that both the G. I. P. and N. W. Railways, with much higher average rates, have really lower rates for flour than the B. N. Railway, with a low average rate.

For sugar and jaggree, the E. I., B. N., and N. W. Railway scale rates compare as follows :—

Rates per Maund.

	E. I. R.			B. N. R.			N. W. R.		
Miles.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
100	0	2	1	0	2	1	0	1	11
200	0	4	2	0	4	1	0	3	7
300	0	6	1	0	4	2	0	5	3
500	0	9	1	0	4	2	0	8	8

It will be seen that the B. N. Railway have the lowest scale rate for sugar and jaggree, because of their wagon rate of Re. 0-3-0 per mile for loads of 360 maunds for distances of 500 miles and over, and the N. W. Railway rates also are cheaper than the scale rates of the E. I. Railway. These figures are clear indications that the average rate of the coal carrying lines, shewn in the statistical returns, do not generally favour other items of merchandise with low rates as in the case of coal. It may, however, be specially mentioned that for coal, the rates on all Railways are calculated on the same scale.

CHAPTER IX.

Passenger fares.

The late Mr. Robertson, the Special Railway Commissioner for India, said that before the passenger fares in India would be regarded, *relatively*, as even equal to those in England, the Indian railway fares would require to be lower than the rates charged for passengers by about from 18 per cent. to 40 per cent. and Mr. Priestley in his report on the organization and working of Railways in America, remarked that while the fares charged to the lowest class of passengers are *actually* lower in India than in America, *in effect* the Indian Railway fares are much higher. He shows that the rate of wage in America for unskilled labourers averages Rs. 3-14-6 a day, and by the expenditure of one day's wages the American labourer can travel over 63 miles. Mr. Priestley takes the rate of wage (not average) in most parts of India for the same class of worker as Re. 0-2-0 a day, and adds that by the expenditure of one day's wages an Indian labourer can hardly travel more than 10 miles. A perusal of Mr. Horace Bell's book on Railway Policy in India will show that the Government were at one time, very keen on the fares for the lowest class of passengers being low, and some years ago forced reduction from 3 to 2½ pies per mile for third class passengers on the E. I. Railway much against the wishes of the railway authorities of that Company; but the average sum received per passenger on the E. I. Railway is still higher than on other State lines worked by Companies. This may partly be due to the short distance travellers, who generally pay a higher rate per mile, being greater on the East Indian Railway, and partly to the fares being relatively higher owing perhaps to better services offered.

The average sum received for carrying the lowest class of passenger over one mile was as follows on the undermentioned railways during 1909 :—

	1st half of 1909. Pies.	2nd half of 1909. Pies.
E. I. Ry.	2·22	2·20
B. B. &. C. I. Ry.	2·11	2·15
G. I. P. Ry.	2·16	2·10
R. M. Ry.	2·01	2·01
Madras & S. M. Ry. ...	2·05	2·06

The lowest fares are, however, prevalent on the South Indian Railway and the B. & N. W. Railway, which runs parallel to the East Indian Railway on the north bank of the Ganges opposite their length Sahebganj to Allahabad :—

	1st half of 1909. pies.	2nd half of 1909. pies.
B &. N. W. R.	1·99	1·99
S. I. R.	1·97	1·98

The reduction in the average number of miles travelled by a third class passenger, during the last 5 years, shows that long distance travelling is not very popular, perhaps owing to the fares not being low enough for long lengths. It might be that both Messrs. Robertson and Priestley were wrong in their conclusions that the Indian Railway fares are high, but the fact remains that the leading railway line in India charges higher fares than any other Railway, and the average lead per passenger is perceptibly going down.

The following shows the average miles a third class passenger was carried during 1905-1909:—

1905	...	...	40·92	miles.
1906	...	...	40·36	,,
1907	...	...	39·65	,,
1908	...	...	38·65	,,
1909	...	...	38·74	,,

In the intermediate class also, the average miles in 1909 were 54·89 miles against 63·78 miles in 1905.

Since the Government have the right to interfere in the matter of fares charged for the lowest class passengers, and as there appears to be scope for development of long distance passenger traffic, it is reasonable that an independent enquiry should be made as to whether the existing fares are low enough, and, if necessary the Government should fix the scale of passenger fares on the State lines, either worked by the Government or by Companies. The scale of rates should be on a sliding basis and should apply on the through distance. Any development in this class of passenger traffic will not only be beneficial to the public, but will assist materially in improving railway earnings.

CHAPTER X.

Retail and Wagon Load Rates.

On railways, all over the world, the conveyance of traffic in wagon loads is encouraged as, in some cases, it saves the railway the labour of handling, and ensures a reasonable load to the wagon. Rail Road transportation is commerce, and the ordinary business principle is observed in offering wholesale and retail rates, the former being lower than the latter. Low rates on wagon loads are not quoted with the intention that they would bring more traffic than if the same rates are charged 'on actual weight,' but wagon load rates are surely conducive to economic working in many ways, and such full car load traffic is very convenient to deal with, and does not suffer detention on the road.

In India, in the case of mineral class goods, agricultural produce and other low priced commodities (excepting grain and seeds) the wagon load rates are often accompanied with the condition that the senders and consignees should do the loading and unloading. It is said that in Great Britain, where the traffic is collected in the towns and delivered at the doors of the shop-keepers, such a condition is not generally imposed, but in America it is done, and one of the critics on 'Railway rates' has said that the imposition of the condition that the traders would be required to do the loading and unloading practically means a higher rate of freight than is actually shewn in the Railway Rate books. This is true. In India, grain and seeds and coal constitute more than ⅓rd the traffic on Indian Railways——coal is carried in wagon loads, as the low rates charged carry with them the condition that the traffic should be sent in wagon loads, and it is also required that the handling of traffic at the despatching, receiving and transhipping points should either be performed by the owners or at their cost.

A statement is appended below showing the total goods traffic, coal traffic, and grain, pulses and seeds traffic on the East Indian, North-Western, Bengal-Nagpur and the Great Peninsula Railways, in tons, during 1909 :—

		Total weight tons.	Coal tons.	Grain, pulses oilseeds tons.
B. N. R.	...	3,898,318	1,972,739	563,461
E. I. R.	...	11,251,542	6,730,482	1,724,737
G. I. P. R.	...	4,438,455	499,491	1,320,854
N. W. R.	...	4,679,706	327,116	1,967,398

It has already been said that coal traffic rates are subject to wagon loads, but in respect to grain, pulses and seeds, while the East Indian Railway special and low scale rates are conditional on the load per wagon being not less than 380 maunds, the other three lines mentioned above, *viz.*, the North-Western, the Bengal-Nagpur and the Great Indian Peninsula Railways charge their lowest rates on actual weight.

Before proceeding further, it may be useful to examine the average wagon loads of the four lines herein referred to.

		E. I. R. tons.	B. N. R. tons.	N. W. R. tons.	G. I. P. R. tons.
Average load of a loaded goods vehicle per mile.	1909. 1st half	12·09	13·50	10·21	9·27
	1909. 2nd half	12·70	12·84	9·50	9·52
Average load of a goods vehicle (including both loaded & empty), per mile.	1909. 1st half	8·03	8·70	7·40	7·13
	1909. 2nd half	8·36	9·00	7·31	7·40

The Bengal-Nagpur loads in the case of loaded vehicles and taking empty and loaded vehicles together, were the best, the East Indian Railway coming next. Here again, the coal traffic was responsible for these results, because although the East Indian Railway grain traffic is greater and is carried in wagon loads, still the Bengal-Nagpur Railway wagon load results were the best, inspite of the fact that their grain rates are 'on actual weight.'

It is true that the export traffic in wheat and seeds is generally carried in full car loads over most railways in India, but on the Bombay side shipment grain and seeds traffic is also carried over railways in smaller lots.

In Bombay, the commerce is in the hands of the Indians, who, it is observed in the Illustrated Guide of the B. B. & C. I. Railway, 'are in hand-to-hand fight with the Europeans in the trade of Bombay.' There are several Indian merchants, in Bombay, who make direct shipments of grain, seeds, cotton, myrabolams, etc., without the intervention of a European firm, and it has been said by many an Indian merchant that the G. I. P. Railway lowest special rates for all the commodities mentioned here being chargeable on actual weight, they are greatly assisted, as the railway rates are thus alike to large and small dealers. It may as well be pointed out here that the B. B. & C. I. Railway grain rates to Bombay are also 'on actual weight.'

In Calcutta, the grain and seeds trade is entirely in the hands of the bigger firms, and the dealers with a small capital can hardly think of trading in wheat or seeds, required in Calcutta either for local consumption or for export. 380 maunds of wheat would cost up-country at least Rs. 900, taking the lowest price at Rs. 2-8-0 per maund, so that a merchant must have about Rs. 1,000 to get a wagon load of

wheat in Calcutta, providing also for railway freight. In Bombay, a petty dealer with a capital of say Rs. 250, is free to bring about 75 maunds of wheat from up country and sell the same to the shipping firms, paying the railway the same rate of freight as those bringing in car loads. Thus, a merchant in Bombay with a small capital, is in a position to import grain in the Bombay mart on an equal footing in the matter of cost with the larger firm. The smaller merchant is thereby enabled to avoid the commission agency charges or interest on a much larger sum of money, which a petty merchant in Calcutta would be required to borrow, at a high rate of interest, if he chose to trade in grain and seeds, the minimum quantity of which must be 380 maunds to get the benefit of the lowest rate of railway freight. Therefore, it is unquestionable that the Bombay lines give the traders greater facilities in developing the traffic. Where everyone is allowed to trade on an equal footing there is always reasonable competition, which is invariably healthy to the commerce and the evils of monopoly of bigger dealers cannot enter.

Taking India as a whole, it is pre-eminently the country of retail dealers, whose consignments are measured in maunds rather than in tons, and if the resources of the country are to be fully developed, every assistance must be given to such small dealers.

Sometimes, the difference between the rates for small lots and wagon loads is a bar to free trading. The rate for kerosine oil from Budge Budge (Calcutta) to Chupra on the B. and N. W. Railway, is Re. 0-4-10 per maund, for traffic sent in wagon loads of 340 to 380 maunds, 20 per cent. higher rates being levied for smaller weights, so that it is not every merchant in Chupra who can think of trading in kerosine oil, for the one with a larger capital will oust the petty dealer very soon as he

has a margin of 20 p.c. in his favour in the matter of railway freight. Then again the necessity for wagon load rates for way side stations is not understood. Santa is a small village between Peleza ghat and Chupra on the B. & N. W. Railway, and for this station there is a Railway rate for wagon loads of kerosine oil. It is hardly that such a quotation would ever be used. Santa requires rates for small lots.

Except for big inalnd towns such as Allahabad, Agra, Cawnpore, Delhi, Etawah, Lahore, Amritsar, Lucknow, Benares, Bankipore, Poona, Amraoti, Nagpur, Bangalore, Mysore, Ajmere, Jeypore, Ahmedabad, &c., the trade from and to the ports *does not require car load rates*. The number of big cities and towns in India is small. Although from the point of economic railway working it must be advocated by railway men as well as by others that wagon load traffic should be encouraged by lower rates than those charged on smaller quantities, anyone who has read the book 'Wealth against Common Wealth' which deals with the tyranny practised by the rich merchants over retail dealers under the protection of 'Trusts' in America, and the low rates and rebates granted to these 'Trusts' by the Railways and the great evils that arose thereform creating monopoly, will tarry a bit before he recommends the free quotation of lower rates for wagon load traffic in India, where the resources of the country are not yet fully developed, and it is through the petty dealers that every village in India can be well served.

CHAPTER XI.

RAILWAY RATES AND UNDUE PREFERENCE.

The fact that railway rates must affect important interests in the country may perhaps be advanced as the reason why the power to fix them should not be entrusted to the public. It is said that a man fixing railway rates should unite in his own person the following characteristics :—'He must have a thorough training in the abstract principles of political economy; he must have a close practical familiarity with the conditions, under which different industries of the country are carried on ; must know for each trade the amount of raw material used, its sources, its cost, the amount of finished product, its destination, the quantities in which it is consigned, the proportion of bulk to value, the severity of the competition to which the manufacturer is exposed and fifty things more.' These remarks were intended for a manufacturing country like Great Britain, but they apply equally to India. The question is : Do Railway Managers in India with their expert railway knowledge combine in them all these qualifications? It is very difficult to get such a man but if Railway people with their intimate knowledge of the cost of working consult the trading public, and those representing the people, much good will result. The Railways of India are worked directly under the control of the Imperial Government, but if local committees consisting of some of the members of the Provincial Councils and representatives of railways and trading classes are formed under the presidency of an important Railway official, and sit from time to time to discuss Railway rates affecting each province much good would result, and the deliberations of these committees may again be discussed in the Imperial Council, if they are of any special importance or affect other provinces.

'Rates problems may be classified into four groups :—those appertaining to the reasonableness of rates in and of themselves without reference to any other tariff ; those which concern the relation between rates upon different commodities; those which arise from an imputedly unreasonable relativity between rates for different and competing places or markets ; and finally those which deal with differences in rates for the same service between competing shippers.'

The Indian Railways Act. requires that the Railwys should treat all traders alike, in the same description of merchandise, and they are required to avoid undue or unreasonable preference or advantage in favour of particular persons or descriptions of traffic. Although no case of undue preference has yet been definitely proved against a railway in a court of law, yet there are rates, which appear to constitute 'Undue Preference.' Let us take a particular case of rates over a certain railway. On the Katni-Bina section of the Great Indian Peninsula Railway, the important stations are Katni, Damoh and Saugor, and the distances and rates for grain to Bombay from these stations are as under :—

	Distances in miles.	Rate per maund. R.	A.	P.
Katni to Bombay	769	0	6	5
Damoh to Bombay	702	0	8	0
Saugor to Bombay	654	0	9	2

There is traffic in grain and seeds from all these stations to Bombay, and while Katni, with a longer mileage to Bombay, enjoys the advantage of a rate of Re. 0-6-5 per maund, Saugor though 115 miles nearer Bombay than Katni, has to bear the rate of Re. 0-9-2 or higher by Re. 0-2-9 per maund. Appa-

rently, the Great Indian Peninsula Railway has fixed their Katni-Bombay rate at this low figure because of the rate from Katni to Calcutta being at the minimum of $\frac{1}{10}$ pie per maund per mile, whereas at Saugor they are in a position to protect themselves against competition on Calcutta traffic by the imposition of the highest rate possible up to Katni Junction and hence they are safe in charging the higher rate on Bombay traffic from Saugor. In the first place, the merchant at Saugor, is penalised by a higher rate of Re. 0-2-9 per maund or Rs. 4-10-0 per ton, that is to the extent of Rs. 46-0-0 in every wagon load of 270 maunds, as compared with the Katni merchant. The price offered in Bombay is generally the same for Katni as for Saugor wheat and the merchant at Saugor must be content with a lower profit of Rs. 46-0-0 per wagon as compared with what his colleague at Katni would make. If this is not undue preference, then what is? Has not the differential rule, which requires that the charge for lesser distance must not exceed that for the greater, been made to avoid anomalies of this nature? Such anomalies will be found over all Railways in India as the differential rule is applied at the option of the railway.

Here is a glaring instance of great disparity between the export traffic and local consumption rates:—Karwi station on the G. I. P. Railway, serves the important Rajapur grain mart. The grain rate from Karwi to Bombay—864 miles—is Re. 0-7-2 per maund, or $\frac{1}{10}$ pie per maund per mile. It will be observed from the Great Indian Peninsular Railway tariff of goods special rates, that there is also a special rate for grain from Karwi to Bhopal, thus indicating that Bhopal gets grain from Karwi or the Rajapur mart. The distance from Karwi to Bhopal, is 362 miles, but the rate is Rs. 0-1-3 per

maund or Rs. 2-2-0 per ton higher than the charge to Bombay, inspite of the fact that the distance to Bhopal is less than half that to Bombay. It may be argued that it is wrong to make comparisons of this kind, because in the case of the Bombay rate the proper comparison will be to take the total charge from Karwi to London or any other continental port, where the traffic will find its final destination. There is force in this argument, but the public of Bhopal may at least claim the same rate as that to Bombay. It is to discuss cases of this nature and rates required for free development of the trade of the country that provincial committees have been suggested.

CHAPTER XII.

NATIONALISATION OF INDIAN RAILWAYS.

Not many years ago, the opinion expressed was that the trunk lines in India should be owned and worked by the State. The obvious advantages of this to a general observer would be as follows :—

(1) The public would be benefited in the matter of through railway rates, because if all railways were owned by the State the present practice of charging block rates or maximum rates to junctions over railways having short lengths would, in all likelihood, be abolished, especially as individual interests of separate Companies would then no longer exist.

(2) In the matter of rolling stock (both Coaching and Goods), under present conditions, when one State Railway might be pressed for wagons, another State Railway (worked by the State or a Company) may have stock standing idle which can be made use of ; and there is perhaps at the present moment the hesitation to borrow stock from another line because of the payment of hire, which does not leave much margin for profit especially in the case of commodities, for which low rates are charged. If all lines were State lines worked by the State, this difficulty would perhaps, not exist.

(3) Saving in the Home expenditure of railways, worked by Companies.

(4) The President of the Railway Board being now on the Imperial Council, and if all lines were worked by the State, the questions relating to them, where affecting the public, would be more freely and effectively discussed. The Railway Board, while exercising general control over all lines India, has absolute control over State lines worked by the State.

The Government now own the following trunk lines :—

Worked under direct State control—

Eastern Bengal, Oudh and Rohilkhund, and North-Western.

Owned by the State but worked by Companies under contracts—

East Indian, Bombay-Baroda and Central India, Rajputana-Malwa, Indian-Midland, Great Indian Peninsula, Madras and Southern Mahratta, and South Indian.

In respect to the State lines worked by the State, the net outstanding, payable by deferred annuities in redemption of capital, amounts to £10,737,501. and £63,173,192 on account of State lines worked by Companies, and although payments on these accounts are made year after year it will be long time before the payments cease, but this does not prevent State lines being worked by the State instead of by Companies, as it is observed that in respect of the North-Western Railway worked direct under State management there is still a balance of £8,192,179 outstanding. But the main point is that, in the case of the East Indian Railway, the Government relinquished the right to determine the contract of 1879 at the end of the 20th year, and under mutual agreement the principal contract will not be determined before 31st December 1919 or nine years hence, and the currency of the contract with the Great Indian Peninsula Railway Company is for 25 years from the 1st July 1900 so that any practical scheme for nationalising all the trunk lines in India in the near future is out of the question.

But nevertheless, although it may not be possible to work all the railways direct under State management in the immediate future, it is essential that the Government of India should exercise their powers more closely from the point of view of safeguarding and developing the resources and industries of the country.

CHAPTER XIII.

WHAT THE TRAFFIC WILL BEAR

An inference may be drawn from the remarks made in chapter XI in the matter of rates, which appear to constitute undue preference, that it is being advocated that the just and proper way of calculating railway rates is to charge so much per ton or per maund per mile, no matter whether the distance be 5 or 500 miles. Far from it, the recognised practice of fixing the charge, on the basis of what the traffic will bear, should always be observed.

The principle of 'Charging what the traffic will bear' does not mean that a railway is to squeeze its traffic for the uttermost pie that can be extracted from it. One way, the obvious but the short-sighted and ineffectual way of doing this, is to charge the highest possible rates and be content with the limited amount of business that can struggle to exist in such conditions. The other way recognises that a small profit, many times repeated, is better than a large one obtained only occasionally. A larger business affords greater opportunities of gain than a smaller and restricted one. Therefore, a railway should encourage new customers and new traffic by moderate rates and liberal treatment. This is the real ideal pointed to by the principle of charging what the traffic will bear. In this connection it will be interesting to read the following from what Mr. Priestley, one of the most eminent Railway men of India with vast experience in Indian Railway working, wrote on the subject of 'Rates for goods.'

'In America, railways were private corporations working for dividends, and rates were fixed which, in the judgment of the

ratemakers, would have all the business requiring to be moved, and yield a sufficient income to pay a reasonable dividend to the stockholders. These rates were not regarded as in any way limiting the traffic; and, some years ago, perhaps few people would have been found who would have said that the rates were not reasonable, or that they were in any way hampering the development of business.

'But the construction of new railways and the opening up of new markets set up competition, at first between carriers both by rail and water, and later between not only carriers, but also between different trade centres and different ports, and soon forced down the rates, forced them down in a great many cases to a point where they ceased to be remunerative.'

'Mean while, under the influence of these low rates, factories and workshops began to spring up everywhere, and the result showed that the former rates were obviously not what the traffic could bear, and that they had been limiting the output and restricting the growth of business.'

Proceeding further the same writer goes on to say as follows:—

'The American Railways make their income by small profits per unit and large volume, while Indian Railways make their income by larger profits per unit and smaller volume. There are still over 90 millions of acres of cultivable waste land other than fallow available for cultivation in India; so that there would appear to be room for a large development of business.'

What American Railways *do*, was said to be the correct policy by the statesmen, ruling India in the years gone by, who laid down that 'maximum of traffic should be carried at the minimum of profit.'

Did not the Bengal Nagpur Railway some 12 or 14 years ago create an entirely new traffic in cotton from the Central Provinces and the Berars to Calcutta by the quotation of ¼th pie per maund per mile rate from Nagpur to Calcutta and it is believed that some such low rate was also quoted by the East Indian from Jubbulpore to Calcutta a few years ago. It may be that cotton, having regard to its comparatively high value, can bear much higher rates in other parts of India, but the fact remains that these low rates alone, quoted by the Calcutta lines, placed Berar and Khandesh Cotton within the reach of the Calcutta Milling industries. This is an example of fixing the rates on the principle of 'charging the rate, *which will move the traffic*' and, therefore, the rate charged in this instance is the rate 'that the traffic will bear.'

CHAPTER XIV.

Railway rates on Fruits, Vegetable, & Brass.

Ten years ago, a distinguished American economist, declared that 'the rail roads of the United States were the prime factor in enabling the people of the country to overcome the losses of the civil war, in enabling the Government to resume specie payment, and in establishing the prosperity on a sound basis.' He very clearly demonstrated by indisputable facts and figures that the low freight rates of the American lines stimulated the traffic. In the minds of the American Railway Traffic managers one thing paramount, over all others, is that the more the cost of a commodity is cheapened, the greater is the demand for it, especially if it is a commodity that is in every-day request. This is said to apply as much to trasportation as to food or fuel. India is a country of vegetarians, and fruits and vegetables can be grown on its soil in much larger quantities. It is also certain that, if the price were cheapened, the consumption would largely increase in the districts far away from the places, where the fruits and vegetables are grown These are articles 'in every-day request.'

The weight of fruits aud vegetables carried over the Indian Railways during the year 1909, was 378,828 tons, and the Railway revenue derived therefrom was Rs. 2,383,362. These figures are of the goods traffic. In the same year the traffic under this head was as follows on the undermentioned lines :—

	Tons.	Rs.
S .I R.	55,824	3,23,569
Madras & S. M.	48,073	3,25,870
N.-W. Ry.	40,352	3,00,724
G. I. P. R.	24,676	2,21,158
B. B. & C. I. R.	28,474	1,31,410
B. N. R.	13,893	1,10,008
E. I. R.	9,804	84,807

The volume of traffic carried by the South Indian and the Madras Railways was greater than on any other line, and the North-Western Railway was not far behind. Southern India is pre-eminently the country of vegetarians, and the fruitful parts of the Punjab, Kashmir and the Afghanistan are served through the North-Western Railway—and, therefore, it is not a matter of surprise that these three lines showed the best results. The figures of vegetable traffic are, however, not separately shewn from those of the fruits. The people of the United Provinces do not see much of the Bengal vegetables or of the sweet Calcutta or Bombay plantains, nor can even the 'Crawford market' of Bombay exhibit *lichis* of Behar or guavas of the United Provinces. There is enough land available to increase the production, if the demand is considerably augmented. Fruits and vegetables can be made to grow in India in huge proportions to meet any increased demand. In America, fruit traffic has grown into large abundance, under fostering railway rates, and in that country that traffic is carried by quick transit trains, and refrigerator cars are used. It is true that the banana fruit traffic is carried in America in train loads, *but the traffic did not grow into train loads all at once.* It is said that it is due to the fostering care of the American Railways that banana traffic is what it is to-day. The American Railway rate for this long-lead fruit traffic is said to be equivalent to 6·50 pies per ton per mile, whereas the rates of the two Indian lines carrying the most of the traffic in fruits and vegetables were as under :—South Indian Railway.—4·6 pies per ton per mile for a lead of 500 miles; Madras Railway.—8·55 pies per ton per mile (Col : W. rate doubled for broad guage wagons, average load taken being 250 maunds.)

The wagon rates of the East Indian Railway for fresh fruits and vegetables, when converted into equivalent maund rates,

taking 250 maunds as the weight carried in a car, work out to 4·33 pie per ton per mile. Having regard to the purchasing power of the mass of people in India, where the average wage paid to a labourer is 2 to 5 annas a day against Rs. 3-14-0 a day earned by an unskilled labourer in America, the Railway rates for fruits and vegetables in India require to be considerably lowered. A rate of 2·72 pies per ton per mile, or the Government minimum rate, will not be very low for fruits and vegetables carried in wagon loads of 200 maunds for distances of say over 300 miles, *but* the rate should apply on the through distance. In the first instance, however, if the rate is applied to small lots, and the traffic is given quick transit, better results would be seen. It may be argued that at 2·72 pies per ton mile the traffic would be carried at a loss, but it may be observed that for hides and skins, the rate charged is 3 annas per wagon mile over some railways. This rate on wet skins, which can be loaded into a wagon to the extent exceeding 360 maunds, comes to 2·72 pies per ton mile. Now, this low minimum rate for hides has come about simply owing to competition between the ports of Calcutta, Bombay, and Kurachee, whereas the trade in fruits and vegetables, which can be developed to the great benefit of country, is not given sufficiently low rates, inspite of the fact that hides and skins do not bring any more money to the railways than fresh fruits and vegetables. In 1908-09, the figures of total earnings were as under:—1908—fruits and vegetables, Rs. 24,76,949; hides and skins Rs. 22,03,491. 1909—fruits and vegetables, Rs. 23,83,862; hides and skins, Rs. 22,84,006. The North-Western Railway, whose rate for fruits is so high as 9 pies per ton mile for wagon loads of 200 maunds, and for wet hides to Kurachee 2·72 pies per ton mile, earned, during 1909, Rs. 2,97,041 on hides and skins against Rs. 3,00,724 from fruits and vegetables.

Mustard and rapeseed oil-cakes are important articles of cattle fodder, but the oil mills of India being situated in Lower Bengal, the United Provinces are at a disadvantage in the matter of cheap oil-cake. The railway rate from Calcutta to the United Provinces is not as low as it might be—a group rate of Re. 0-9-6 per maund is quoted from Calcutta to all stations on the East Indian Railway, Allahabad to Delhi, so that the rate from Calcutta to Cawnpore is Re. 0-9-6 per maund, although for cotton-seed cake from Cawnpore to Calcutta the rate is Re. 0-7-0 per maund. Seeing that railways carry the outward traffic in oil-seeds, it is reasonable that the oil-cake produced from these oil-seeds should be carried at a low rate of freight, especially the cake being an item of cattle fodder. The Oudh and Rohilkhand Railway charge this article at Rs. 0-2-6 per wagon per mile, irrespective of whether the lead is 5 or 500 miles, whereas the East Indian Railway rate from Howrah to Moghalserai for traffic to the Oudh and Rohilkhand Railway works out to Re. 0-4-10 per wagon per mile.

Let us take one more article of merchandise, which is required by every Indian household. The article referred to is brassware. In a year 18029 tons of unwrought brass and 36, 207 tons of brass manufactured are carried over Indian Railways. While the Indian Railway tariffs are full of exceptional or special rates to and from Calcutta and Bombay, there is the remarkable absence of any special rate from say Mirzapore, Nasik, Murshidabad., Moradabad or such other places of brass, bell metal and copperware manufactures. The Railway rate for brass and copperware common from Calcutta to Delhi is Rs. 0-15-10 per maund, and under the operation of the differential rule the charge from Mirzapore to Delhi may also be taken as the same, the ordinary-rate being higher, but the distance from Mirzapore to Delhi is nearly half of that from

Calcutta to Delhi. While Calcutta traders are not required to pay any Railway freight on brass or copper unwrought or on zinc slabs, which are imported into this country from Europe and Japan, Mirzapore has to pay the railway freight on raw materials from the ports of Calcutta and Bombay and yet Mirzapore is denied the benefit of relatively lower rate on brassware, having regard to its geographical position, as compared with the rates allowed to the Calcutta manufacturers.

It will be interesting to examine what treatment the brass and copperware trade of India has received at the hands of the Railway companies. Not more than ten years ago, the Great-Indian Peninsula classification for brassware was 1st class ($\frac{1}{3}$ pie per maund per mile), but when the Government took over that line, the rate was raised to 2nd class ($\frac{1}{2}$ pie per maund per mile), the latter being then the General Standard Classification in force on all Indian Railways for brassware. The newly formed Tariff simplification Committee of Traffic Managers of Indian Railways, have revised the brassware rates. As the result of their decision brassware is now allowed to be charged 2nd class *only when the traffic is at owner's risk*; so that if from a consignment of brassware 50 'lotas' are lost in transit the Railway company will not be liable. And should a merchant desire to despatch his traffic at Railway Risk, he must pay the third class rate ($\frac{2}{3}$rd pie per maund per mile), or in other words in a period of ten years the railway risk rate for brassware, say on the Great Indian Peninsula Railway, has been raised by 100 per cent. The insecure packing used by the brass trade is perhaps the result of this enhancement to protect the Railways from claims for pilferage.

CHAPTER XV.

TERMINALS.

Mileage rates shewn in Chapter XVII are intended to cover only the carriage along the line from the despatching to the receiving station, and the Railway Act of IX of 1890 authorises in addition to these rates, the impositon by railways of terminal charges to provide for services rendered in connection with weighing, invoicing, loading, unloading, shunting and marshalling of wagons, and for the use of the railway premises, during the time allowed free of wharfage and demurrage.

The Railways Act permits the railway to levy reasonable terminals, but the term 'reasonable' is a very wide one. The North-Western Railway levies the charge of 3 pies per maund, the Great Indian Peninsula Railway terminals vary between 6 and 12 pies, whereas the East Indian Railway charge, in the way of terminals, from 2 to 9 pies. The Oudh and Rohilkhund Railway, probably in view of the fact that excepting its Calcutta traffic all other traffic is carried for comparatively short distances, have lately raised their terminal charge from 3 pies to 6 and 9 pies per maund. It is also possible that the low percentage of nett earnings of the Oudh and Rohilkhand Railway on the capital outlay *viz.* 2·99% in 1908 and 2·67 per cent. in 1909, had something to do with this enhancement. There is no question as to the legality of terminal charges, and they are in force on railways in every other country and were introduced in England after a great fight between the traders and the railways. The Railway Commission of 1867 in England considered the matter at great length and held that if a Railway Company provides means and facilities for loading, covering, unloading etc., and allow goods to remain on their premises the railways would apparently, under their powers and the intent

of the Parliament, be enabled to charge for such services. In India, it is observed, terminals are waived, at the option of the Railway Company to meet exceptional conditions such as competition, or in the case of low priced commodities carried in large quantities, but it is also noticed that when the traffic hauled over a railway is for a short length, and such railway is interested in diverting the traffic from the route giving it a shorter lead to the one more advantageous to that railway, the maximum terminals are charged in addition to maximum rates. Further, in spite of the fact that that terminal charges are levied, the traders are often required to perform the loading and unloading, where car load rates are quoted, but it is not in India alone that this condition is imposed. Edwin Pratt, in his book on 'Railways and their rates,' writes as follows:—'Everyone must see that when a railway is freed from the cost of loading and unloading, there is a substantial reduction in the cost of service rendered, as compared with the expenditure entailed when railways do all these things themselves. Belgium, I believe, was the country that set the example of leaving the traders to do their own loading and unloading, but this example has been widely followed and in many instances loading and unloading by traders is an indispensible condition to the securing of reduced rates for full truck loads.' Now taking the case of, say, limestone or lime from Katni to Jubbulpore, the Railway Company levies the maximum terminal of 9 pies per maund, and in addition the traders are required to defray the cost of loading and unloading. One cannot help remarking that the effect of the reduction in the rate for the wagon loads is lost to a certain extent when the reduced rate carries with it the condition that the senders and consignees should do the loading and unloading.

CHAPTER XVI.

Demurrage and Wharfage.

Closely allied with the question of terminals is the one relating to demurrage and wharfage. The maximum charge for demurrage is one anna per maund but on many railways lower rates are levied. Generally 48 hours is the usual free time during which no demurrage is charged on goods which are loaded and unloaded by the Railway companies, and when the traffic in truck loads requires that this service is to be performed by the traders the limit is less, and in the latter case demurrage at the rate of one anna per ton of carrying capacity of wagon per hour is charged. The question of responsibility of warehousing goods was one of the subjects for discussion at the last Railway Conference. In the Goods Tariff issued by the Indian Railway Conference Association the following clause appears:—The Railway Administration gives public notice 'that it is not liable for goods, not removed from the Railway premises, at station of destination, within the time allowed free for demurrage for any loss, destruction or damage to such goods or any of them from any cause whatever, notwithstanding that the railway shall be entitled to be paid the authorised charge for goods so left on their premises.' The Railway Act does not authorise such a clause nor does the law of common carriers nor even the Indian Contract Act allows it. It is correct that after the free time is over, the responsibility of the railway as an insurer ceases, but the responsibility of a warehouseman must remain on the Railway Company, and the railways, as bailees are bound to take as much care of goods in their charge as a man of ordinary prudence would take of his own goods. It is reasonable that Railway Companies should require their sheds to be as free as possible to accommodate

inward arrivals everyday, because at times of pressure, unless deliveries keep pace with the arrivals serious congestions may occur, and instances are common when during a busy season wagons are hung up on the road and booking of traffic is stopped simply because the removals from the railway sheds at the ports of destination are slow. But at the same time, supposing that a clause similar to the one now appearing in the Goods Tariff was legally authorised and there was heavy rain or some other unforeseen event which prevented removal of goods within the free time, and the consignment in the custody of a railway was damaged and became utterly useless, the Railway Company would not be liable to the extent of even one pie although the loss to the trader might be over thousands of rupees. To ordinary obsever the absurdity of the clause in the tariff is that while the railways have tried their best to avoid all responsibility in respect of goods in their charge, they have made it very clear that notwithstanding their being free from all responsibility the railways are entitled to receive demurrage charges for the time the goods remain on their premises.

What has so far been argued is purely from the trader's point of view, but no reasonable conclusion can be arrived at until both sides of the question are fully gone into. The Railways, especially those having their terminus at the ports, have a very difficult position. If the goods consigned to the ports were for immediate transfer from Railway wagons into ships, there would be no trouble, but no small portion of the traffic in wheat and seeds has to change hands at the ports, before they are shipped. At some ports of shipment, grain and seeds are brought down merely on speculation, and in many instances the consignee does not know, even on arrival of his goods, whether he would sell to the local miller or to a

shipper, and when both are buying freely or even one of the two, the removals of goods from the Railway premises are quick. But owing to various reasons ruling the fluctuations in the market, there is at times a tendency on the part of the buyers to lower the prices, and then the position of the Railway becomes an unenviable one.—The goods have already been brought down and some are on the road on their way to either Calcutta or Bombay; in the meanwhile the price falls. The sellers are unwilling to part with their goods in the expectation of a speedy revival in the prices, and the buyer is trying to bring down the seller by the game of waiting. If the goods are removed from the Railway premises to private godowns, such a course of events would not affect the Railway much, although it is to the interest of the Railway to see free and maximum movement of traffic. But on account of inadequate godown accommodation, especially in Calcutta, the goods are allowed to remain on the Railway premises. Deliveries thus not keeping pace with the arrivals, there is a block in the Railway Sheds, and the weather being most uncertain, especially in Bengal during the months of April and May, unloading on open ground is not safe, and the Railways after waiting for a few days have to stop further bookings to the ports. Goods worth crores of rupees lie in their hands, through no fault of the Railways, and great risks are undertaken by them. This is an yearly occurrence at some ports, and in such cases it is certainly reasonable that the responsibitity of the Railways should be greatly minimised, because he merchants, knowing that their money is safe so long as the goods lie with the Railways, are not so eager either to sell heir goods at a low price or to remove them. Railways do raise their demurrage charges on such occasions, but if they put up their charges to exhorbitant figures certainly the trade

would greatly suffer. Between trying to avoid hardships to their constituents and their own risk and responsibility the Railways really do not know where they are. It is time the Government instituted full enquiries into the question of responsibility of railways in warehousing goods after arrival, both in the interests of the public, and of the railways themselves.

CHAPTER XVII.

MAXIMUM AND MINIMUM RATES

The State lines (whether worked by the Government direct or by a company) and the Assisted Railways are allowed to regulate their goods rates within the following maxima and minima limits :—

Class	Maxima per maund per mile.	Minima per maund per mile.
I	$\frac{1}{3}$rd pie	$\frac{1}{10}$th pie
II	$\frac{1}{2}$,,	
III	$\frac{2}{3}$,,	
IV	$\frac{5}{6}$,,	$\frac{1}{6}$th pie
V	1 ,,	
Explosives or X	1$\frac{1}{2}$,,	

Maximum rates are recognised all over the world. The Committee appointed by the House of Commons in England, in 1881, to investigate railway questions in that country expressed their opinion that 'it is essential to the protection of the public that the maximum rate should be fixed in all cases.' When railways in India were in their first stage and for many years afterwards, maximum rates only were fixed by the Government, but later on experience showed that in view of reckless competition it was not safe to leave the railways without any minimum limit. In fixing the minimum for the lowest class of goods at $\frac{1}{10}$th pie per maund per mile, the average cost of transport over various railways at the time was not lost sight of, and it was felt that this was about the lowest limit at which traffic could be carried at some profit. In the case of coal traffic, however, a minimum rate lower than $\frac{1}{10}$th pie has since been sanctioned as follows:—

For distances up to 300 miles ...	0·10	pie
Plus for any distance in excess of 300 miles and up to 500 miles inclusive ...	0·066	pie
Plus for any distance in excess of 500 miles	0·05	pie

But as in the case of coal traffic, the longer routes are allowed to charge the same rates as by the shortest route, this minimum is often infringed and still lower rates are charged, as one of the conditions laid down by the Government while fixing the above minimum, is that when there are two or more routes to destination from the colliery where the traffic originates, the railway or railways forming the longer route may calculate charges on the same mileage as the railway or railways forming the shorter route. A few years ago, there was some talk of minimum rates on all descriptions of goods traffic being abolished, as on English lines, but India cannot afford to pay the expenses of a railway rates war, which might follow if the minimum were to be abolished. The time has also not yet come for the minimum of $\frac{1}{10}$th pie to be further reduced except perhaps in the case of minerals. In the past few years several mines have been discovered and have been and are being worked in India, and as it is to the interest of the country to develop its mineral resources, it would be a great encouragement to the promoters of mining schemes if minerals were allowed a lesser minimum than $\frac{1}{10}$th pie. For commodities like manganese ore, lime-stone, bauxite ore, red oxide of iron &c., lower rates than $\frac{1}{10}$th pie might lead to good results. Further, the minimum of $\frac{1}{10}$th pie is only applicable to 1st class goods which constitute articles of mineral and agricultural produce and other low priced commodities, and for goods coming under the head of the remaining five classes the minimum rate permissible is one-sixth pie per maund per mile. It may be considered advisable to fix the minimum at one-tenth pie for all classes; this is not unprecedented in India.

CHAPTER XVIII.

British Capital on Indian Railways, charging on the principle of lesser profit per unit on large volume of business and development of Industrial and Commercial interests.

The British capitalists have still large sums of money invested in Indian Railways and their interest in the prosperity of the Indian lines, and in the development of the traffic on these Railways, should be as keen as of the Government of India and the Indian people. The debentures and debenture stock of Indian Railways, owned in England, amount to no less than £3,853,700, and the nett outstanding on account of payments still due in respect of the Railways purchased by the State, is about £74,000,000. While it is true, that the annuity holders and debenture stock holders receive fixed rate of interest, still when there are surplus profits, they are also shared by them with the Government of India. Therefore, the greater the surplus profits on Indian Railways, the better for them. A well known writer in his paper on the "Theory of Railway Rates" says that there is a tradition in England that the outturn of a Railway—that is, the gross receipts—must at least be 10 per cent. of the capital invested, in order to make the enterprise profitable, and in recent years, the English railroads have certainly not exceeded that proportion. The operative expenses of English Railways are said usually to absorb fifty to sixty per cent. of the gross receipts; so that the proportion of the nett receipts to the capital outlay is 5 per cent. or less. In India taking eleven of the most important, lines, it is observed that during 1905, there were only three lines, whose nett receipts amounted to less than 5 per cent., on the capital outlay, but during 1909, out of the same eleven Railways, there were only five lines that brought in more than 5 per cent. outturn in the

nett receipts on their capital, while of the remaining six, five lines yielded $3\frac{1}{2}$ per cent., to 5 per cent., and only one less than 3 per cent. The fact also remains that the nett receipts of one of the Railways were in proportion of nearly 8 per cent. to the capital, and it cannot, on the whole, be regarded that the Indian Railways are working at a loss, taking of course the important trunk lines, which, however, absorb a very large percentage of the mileage of the open lines in India.

At the same time, it cannot be denied that like Railways in other countries, the Railways in India had to record a rise in their working expenses. The cost of living has generally risen, which accounts for the corresponding rise in wages, and further the reverses in the agricultural conditions of India, for want of moisture during 1905 to 1908, and the general depression in the trade of the world, have tended to increase the expenditure and to reduce the goods receipts. For the present, however, the agricultural conditions are better, and agriculture at present being the greatest industry of the country, it is essential that everything should be done to promote the same, and increasing interest taken to advance the country in its industrial activity (both agricultural and manufacturing). India must learn better methods of cultivation, whereby the produce of land may be enhanced and she must direct her attention to commerce and manufacture, whereby the strees on land will be lightened.

The rise in the railway working expenses, which means a consequent rise in the cost of hauling the traffic, might result in Railways becoming overcautious in the matter of quoting low rates, but no one has yet been able to say what it costs a Railway to carry a particular item of traffic, although a general deduction has been drawn that car load traffic costs much less than small consignments, and minerals less than ordinary

articles of merchandise. That the greater the volume, the lesser it costs to carry is the generally accepted theory, and the average cost of hauling one ton one mile, as shewn in the Statistical Returns of Railways, should be no criterion in arriving at a decision in fixing a railway rate. It will be seen from the figures published on page 286 of the Railway Board's Administration Report for 1909, that the average profit on working a goods unit one mile on the Bombay, Baroda and Central India Railway was 4·08 against 1·98 pies per ton mile, the profits made by the East Indian Railway, but still the later Railway showed far better results both in gross and nett revenue, and percentage of nett earnings on capital outlay was 7·90 per cent. on the East Indian Railway against 6·39 per cent. on the Bombay, Baroda and Central India Railway, this clearly demonstrating that "small profit repeated several times is much better than large profits earned on lesser volume of business." The larger the business, the greater is the chance for gain.

These figures further go to shew that the mere average statistical cost of carrying a ton one mile or the average profit per ton per mile should not be the basis in fixing rates. In England, no such statistics are kept, but in India, a record is kept of the distance each consignment is carried, and the number of tons carried is multiplied by the number of miles they travel. The result gives the number of ton miles. For instance, 100 ton miles may mean 1 ton conveyed 100 miles, or 100 tons carried 1 mile. When the total ton miles of the goods traffic have been thus ascertained, the gross receipts from goods traffic are divided by the ton miles to shew the average sum received per ton mile. Presumably the total expenses of a railway are divided between the goods and the passenger traffic in proportion to the traffic (the unit miles being very

likely taken in the case of passenger traffic and ton miles for goods traffic,) and the sum thus arrived at as the expenses for goods traffic is then divided by the goods ton miles to arrive at the cost of hauling one ton one mile, and the difference between the average sum received per ton one mile, and the average cost of hauling a ton mile, is the average profit per mile. These figures are extremely problematical, and are based on rough average results, the cost of hauling a train load consignment being thus taken the same as that for a single package, which is obviously wrong in every way. Therefore, the nett results ought to determine whether the Railway capital is yielding a fair outturn, and whether further reductions in the rates can be made to improve the gross revenue by considerable increase in the business, which can only be done by giving impetus to the productions and trade and commerce of India.

CHAPTER XIX.

Development of Indigenous Productions (Agricultural, Mineral and Industrial) and Railway rates.

WHEAT.

'India is, next to the United States, the largest wheat producing country in the world' and 'the significance of this fact is great when we consider England's relation with India, as England depends mainly on imported wheat'.—'India, is supplying more and more of this'.—The year 1903-04 was the best year for wheat, and in that year the area and yield were made up as follows:—

	Acres.	Tons.
The Punjab and the N. W. Frontier Province ...	8,759,762	3,377,255
United Provinces	7,788,753	3,230,018
Central Provinces... ...	2,921,161	751,388
Bengal	1,508,600	527,800
Bombay (including Native States)...	2,174,076	560,279
Berar	452,663	70.052
Sind (including Native States)	586,895	202,171
Rajputana	1,125,277	297,162
Central India	1,956,069	523,855
Hyderabad	1,134,769	100,535
Mysore	5,718	630
Total ...	28,413,743	9,641,145

'The importance of the Punjab and the North-West Frontier Provinces, the United Provinces and the Central Provinces

as wheat growing localities in India are great':—The productions of the Punjab and the North-West Frontier Province find their outlet to England and the continent via Karachi port and those of the Central and the United Provinces partly *via* Calcutta and partly via Bombay. Calcutta wheat is burdened with a refraction of five per cent, and Bombay wheat of four per cent, in the English market, which only induces the Indian cultivators or traders (Mahajans) to mix mud, but if this refraction is removed inducement will be offered to export clean wheat.

The yield of 9 or 10 maunds per acre is the average outturn of Indian wheat, and to produce 12 maunds of grain it costs about Rs. 27-0-0 or about Rs. 2-4-0 per maund.

The area under wheat cultivation in the Punjab has, owing to irrigation, and other conditions, shewn an improvement of 950,300 acres during the last fifteen years, but the other Provinces have not been so fortunate as the Punjab, and taking India, as a whole, the acreage in the season 1908-09 was less than in 1894-95 by 2,443,651 acres. A great deal of course depends on climatic conditions, but the prices in the consuming countries have also something to do with the flow of the traffic, and the consequent increase in the acreage to keep pace with the demand, but in foreign markets there are productions of other countries, in competition with the Indian wheat. It is remarked that India's first problem is to find means of securing a certain staple crop, by irrigation on the one hand, and by the use of better varieties of wheat, on the other; her second to raise the output per acre by educational work among present growers; her third is to study the requirements of the English markets.

Then again, while it is admitted that the cost of production in India is very low, it has been observed at the same

time that owing to the expense of transport it only pays to export from the Punjab, when the selling price in England is 11 shillings above the average price.

It has already been shewn that on Railways other than the East Indian, the Railway rates are higher for longer distances than for the shorter, and in the matter of rates for wheat to Karachi, as the distance to Karachi becomes less, the rates become higher, as the following few illustrations will shew :—

Miles from Karachi.	From Stations.	Rate per maund to Karachi. R.	As.	P.
909	Delhi	0	7	7
949	Meerut	0	8	1
880	Jagadhari	0	8	0
844	Umballa City	0	8	3
839	Jullundur	0	10	4
757	Lahore	0	10	0
791	Gujranwala	0	10	7

It has been asserted that because of the high cost of transport, the price of wheat, imported into England from Karachi, is eleven shillings (per 480 lbs..) more than the price of English wheat. Eleven shillings per 480 lbs. mean Rs 1-6-6 per maund of 82 lbs. so that any reduction in the Railway rate cannot make up for this difference; even free carriage will not make it up. Taking the average of 7 years, India has supplied nearly 14 per cent. of the wheat consumed in England, and it is said that in spite of the high price, India will almost inevitably take an increasing important part in supplying the needs of England.

Although it has thus been proved that no reduction in the Railway rates will be sufficiently low to attract more Indian wheat in England from the Punjab, there is one thing to be said that, in the interests of the competing markets, efforts should be made to secure a proper co-relation of rates, without unjust discriminations in favour of or against any city or section; for instance, the rate from Lahore to Karachi, for 757 miles, is Rs. 0-10-0 against Rs. 0-7-7, the rate from Delhi to Karachi for 909 miles. This kind of rates making is surely not studying the interests of all competing markets of supply.

Another question that arises in this connection is whether the reductions in the rates for wheat for export have been made at the request of the trade in order to place more Indian wheat in foreign markets in competition with the productions of other nations or simply because of competition between Railways themselves.—It is seen that the low rates for wheat to the ports are in force from Delhi to Karachee, Bombay, and Calcutta, because the East Indian, the Bombay lines, and the North-Western Railway have all their terminus at Delhi and are in a position to compete freely for Delhi wheat traffic for export, but it is observed that from, say, Jullunder and other stations in the Punjab the Railway rates for wheat to Karachee are greater than from Delhi, although they can be made lower than the Delhi rates, should the Railways so wish it. If it had been the object of the Railways to reduce the rates for wheat in order to cheapen the price of Indian wheat generally so as to place it in a favourable position in European markets with the American or Russian wheat, the reductions in rates would have been general and not confined to competitive points only. It would therefore seem that low rates for wheat to the ports from competitive points have come about simply because of competition between Railways.

There is one thing more to be said in this connection. The American wheat export traffic is in somewhat the same position as the Indian wheat ; and dealing with domestic and export rates in connection with the proceedings relating to Atlantic and Gulf of Mexico competition, Commissioner Prouty said as follows :—

" If the price of wheat in the foreign market is fixed by conditions outside the United States, that price of necessity determines the sum which can be realized in the foreign market for our American product. The cost of laying this wheat down in the foreign market is made up of two factors : the price paid the farmer who raises it and the cost of transporting the grain from the grain fields to the foreign market. If the cost of transportation remains at all times the same, the price paid the farmer must vary with the price abroad, and a reduction in the cost of transportation would benefit the farmer by exactly the amount of the reduction, It was said by those familiar with the business that the price at which our surplus can be sold, determines the market price of the entire product. It seems plain that this must be true to a large extent.

We are inclined to think, therefore, that there might be, and at times probably are market conditions abroad which require the making of a low export rate for the purpose of disposing of our surplus product, and that without such rate, the surplus product could not be moved, resulting in a demoralization in price to the wheat producer. In that event the consumer would get the benefit of the low price, which the producer is compelled to take, but it will hardly be claimed that, taking the people, as a whole, such fluctuations in price are desirable. * * * *

"We very much doubt whether market conditions abroad require a low export grain rate, or whether such low rates produce a material effect in the movement of our surplus grain crop."

It will be seen that low rates for export traffic were not encouraged in America, but in India for wheat, the export rates are much lower than than the domestic rates for wheat consumed in the Country.

"The primary object of the Flouring Mill is usually to grind for home consumption, the foreign market being resorted to as means of disposing of that portion of the product, which cannot be marketed at home." Russia, Canada and India grind only a small quantity of the wheat, but the United States is the only country which exports any considerable amount of flour. The Americans say, there are obvious advantages in exporting flour, where by the bye products are retained in the country, which again profits by the labour employed in the mills, and the aim of India should therefore be to turn out flour of the quality likely to find ready market in foreign lands, and encouraging railway rates for wheat to be crushed in the Flouring Mills of India as well as for flour should be granted.

The Atlantic and Gulf Competition Commission of 1899, was of opinion that public policy and good railway policy alike require the same rate upon wheat and flour, and that if low rates were at all quoted for export wheat, they should apply equally to export flour. This Commission was further of opinion that such rates tend to develop both the industries of the country and the traffic of the railways.

In any consideration of the price of wheat or flour consumed locally in the country, it has to be borne in mind that railway transport charges play a very important part.

The railway freight on flour and *atta* from Calcutta to Mysore is Re. 1-11-8 per maund over a lead of 1935 miles, and the price of the lowest quality of *atta* turned out of the mills in Calcutta is Rs. 4 per maund under normal conditions, so that if *atta* is sent from Calcutta to Mysore, 43 per cent. would have to be added to the Calcutta price in the way of rail freight to enable the goods to reach Mysore. But the railway freight on flour from Delhi to Calcutta is 0-8-6 per maund for 903 miles. A large quantity of the Delhi flour is exported to Burmah, and the low rate of freight from Delhi to Calcutta is said to be of great assistance. This shows that whereas the railway rate from Delhi to Calcutta over a lead of 903 miles is 2·9 pies per ton mile, the railway rate from Calcutta to Mysore works out something like 4·6 pies per ton mile, although the railways get a considerably longer haul in the latter case. Low rate of rail freight has built up a large trade in flour from Delhi to Calcutta, and there is no reason why the minimum railway rate, viz., 2·7 pies per ton mile should not create good business in flour from Calcutta to Mysore. In the Mysore District the production of wheat was only 630 tons in 1903-04. The Government are at the present moment looking into the question of price of food grains, and in any enquiry of this nature, such questions as regards railway freight, &c., must be carefully looked into.

COTTON.

The cotton industry is one of the very greatest in the world. It gives employment to a vast number of persons; but at the present moment, this great industry is not very flourishing. Mr. Arno Schmidt, the Secretary of the International Cotton

Federation, has said that his information is that India could produce, within four or five years, 10,000,000 bales of cotton, if the industry received proper encouragement. There has been some prejudice against using Indian cotton freely in the mills in Europe, but some good stapled cotton is grown in India. Americans are at present said to be the great monopolists of cotton trade, but it is asserted that the European Continent and Japan will be gradually replacing American cotton by Indian cotton. Mr. Arno Schmidt suggested that it would be advantageous to the English spinners to develop the cotton growing in India, and that this view should be instilled into the Government of India. It is further emphasised that more seed farms should be established by the Government, and that Agricultural Banks should be extended, but it should not be the object to grow more cotton in India solely to make India the main source of supply of raw produce for England. The first claim on the raw cotton produced in India should be of the Indian people to improve their cotton milling industries, before any thought should be given to the increase in the exports of raw production for mills in other countries. It is true, that cotton at present exported out of India is not sent out from its shores to the detriment of the interests of the existing local mills, but a country like India should have many more mills, and be capable of clothing the 33 crores of its inhabitants from its own cotton industry.

The countries growing cotton in large quantities are the United States, Brazil, Egypt, Russia and India.

There was a short crop in the United States twelve months ago, and damage was done to the Egyptian cotton by worms. Like India drought is an annual nightmare in Texas in America.

The lateness of the American cotton crop, and the comparative lightness of stock, caused more than usual nervousness in the cotton trade. The cotton belt of America is often exposed to storms and frosts, besides being subject to drought, but still America plays an important part in the cotton trade of the world, because of its vast area under cotton cultivation. Should not, therefore, India, which is almost in the same condition as America in the matter of adverse climatic conditions affecting the cotton production, also try to improve the cotton acreage, and the standard of the production?

The continuous depreciation of the Egyptian cotton crop has been the subject of special investigation. A Geologist, a Mathematician, two Chemists, an Entomologist, an Engineer, several Agriculturists, and a cotton expert are all contributing their special researches, as a result of their investigations converging upon one subject, *viz.*, a better understanding of the root system of the Egyptian cotton plant, and the effect produced on the crop by insufficient or interrupted root development. The presence of patches and sandy soil at various depths affects the accumulation of water. Although a definite conclusion as to the remedy to improve the Egyptian cotton has not been arrived at, one of the suggestions is that there should be a restriction on surface watering.

With the great demand for cotton in the world's market of consumption, India should have a great future before it in the cotton trade. The countries, exporting cotton for spinning and weaving in England, are, the United States, Brazil, Egypt and India. The Indian cotton is generally classed in England as "common cotton", and Surat cotton which is almost the best of the kind produced in India, generally fetches 7¾d. per lb. while the price of America and Egyptian cotton of the medium

kind is $8\frac{1}{8}$d. per lb. The finer qualities of American and Egyptian production fetch much higher prices, such as $14\frac{7}{8}$d. for the brown Egyptian quality, and 22d. per lb. for the "Sea Island" American cotton.

The exports of cotton from Bombay in this Season have been greater than in previous seasons. During the period from 1st October to 10th November, the number of bales shipped from Bombay was 88,774 against 36,555 bales during the corresponding period of the previous season, but this must be said that the main cause of this increase was the high price current, as the result of short stock, which must have the effect of drawing cotton to the consuming market at the earliest moment possible. The exports from Bombay were to Europe and Japan, viz., 64,477 bales to Europe and 24,470 bales to Japan, but there was a total absence of any export to China this year. During the seasons 1908-09, the total acreage in the cotton growing provinces of Bombay, Berar, the Central Provinces and the United Provinces were less than that in the previous seasons, the total acreage in India being—

19,739,000 acres in 1908-09
21,630,000 1907-08
22,484,000 .. .. 1906-07.

In the current cotton season there is an improvement in the area under cotton cultivation in the Bombay Presidency and the Central Provinces and Berars; and this is indeed a matter for congratulation. The prolonged break in the rains retarded cotton sowings in the United Provinces, which were suspended for a large part of July, but in the canal districts in these Provinces, the sowings began about the usual time in May, with the help of irrigation, but unfortunately the heavy rainfall in September caused some injury to the crop.

The Broach or Surat cotton is classed as fine or good stapled, and fetched a price of Rs. 337 per kandi of 784 lbs. in December in Bombay, but the Bengal cotton, by which name the production of the United Provinces is known, fetches no higher price than Rs. 300, for the best quality, but the price of Broach or Surat cotton goes higher still. The relative value of cotton fibre depends mainly on the length, strength and fitness of the staple. The length of the "American sea island cotton" is 1·60 inches, and of the ordinary American cotton 1·10 inches.—The Egyptian, cotton is 1·50 inches long, but the length of the Indian cotton is ·65 to 1·3 inches. Navsari and Broach productions are the best Western India varieties, and Sindh cotton which is the acclamatised Egyptian cotton, is the best. Egyptian cotton thrives on Sandy Soil.

With 8,076,460 spindles, Russia ranks third amongst the cotton spinning countries of Europe, and requires £25,000,000 worth of cotton, of which she imports £12,270,000 worth, and £9,920,000 of this from America. The Russian manufacturers are beginning to declare that they prefer to spend their millions on schemes for production of cotton at home rather than pour them into the pockets of American monopolists. But reverse are the conditions in India, where the cotton milling industry must yet be said to be in its infancy, although a goodly number of mills have sprung up during recent years. India possesses 257 cotton mills, of which 86 are located in the city of Bombay alone, and 81 in other cities in the Bombay Presidency, 27 in the Madras Presidency, 16 in Bengal, 14 in the United Provinces, 10 in the Punjab, 9 in the Central Provinces. But Tata's Empress Mills in Nagpur are by far the largest in India. Why you should call the Indian cotton milling industry in its infancy is because during six months from

1st April to 30th September 1910, the value of cotton manufactured, including piece-goods, twist, and yarn imported in India, amounted to over 26 crores of rupees.

The Indian people should strive to reduce the imports, and to increase the local produce. The theory is that the heavy imports indicate prosperity of the country, but when the local manufactories in India still require development, the prosperity, judged from the increase in imports cannot be said to be genuine. But any attempt to oust the imports by such measures as the "boycott movement" can never be conducive to the rise or improvement of an industry, which must try to improve and flourish in spite of competition, because competition is healthy to trade, whereas "boycott" means monopoly, and under monopoly the local produce will only flourish to a certain extent, but in the absence of competition, it cannot attain perfection nor would it try to improve itself, and surely such conditions cannot be for the good of any trade or country in the long run. The local milling industries should turn out articles, which can stand in competition with the imports both in the matter of quality and cheapness.

The details necessary to attain these ends, must necessarily lie with the experts and workers in the various sections of the cotton trade (both growing and milling), and the Railways in India should join hands with the Government and the milling industries in the matter. The greatest Railway expert that ever came out to India openly declared that the more numerous the local industries are along a line of Railway, the greater always is the prosperity of that Railway. Therefore while, on the one hand the Government should increase the number of seed-distributing farms, extend irrigation and agricultural banks, the Railway should, on the other, offer every

encouragement to the opening up of more local industries by offering special facilities in the way of cheap rates and accommodation, and by giving more easy terms in regard to the laying down of Railway sidings to the mills.

Theoretically we all admit that the political economy primer is correct, when it says that the consumer pays the cost of transport, and therefore on cotton sent out of India any increase in the rail freight would be borne by the consumers in the country to which the cotton is exported. For this reason, there should be no objection to higher rail freight from the point of view that any additional earning to the railway means profit to the Indian people. This may be true to a certain extent, but it is to be remembered at the same time that out of cotton produced in this country, a certain quantity is also consumed in the mills in India, and low rate of rail freight on raw cotton, consigned to the mills in India will be of considerable assistance to the cotton milling industries of the country. There is only one instance on Indian Railways where such a concession has been allowed to a local industry, *viz.*, on cotton carried over the Tapti Valley Railway, the B. B. & C. I. Railway charge the classification of 2nd class, when traffic is booked to the mills in Broach, Ahmedabad, Nadiad &c., although they have 3rd class rate for Khandesh cotton sent to Bombay. This method of rate-making could, with advantage to the local industry of India, be extended.

The effect of granting the G. I. P. Ry. the power to charge a higher rate than any other Railway in India has been felt by the Mill owners in Calcutta. While all the lines in India can not charge more than ·50 pie per mile, the G. I. P. Ry. charge ·80 pie. The Great Indian Peninsula rate on cotton from Khandwa to *via* Jubbulpur (on Calcutta traffic) is Rs. 0-10-5.

per maund, whereas that Railway's rate on the same article from Harda to *via* Jubbulpur on Calcutta despatches is Rs. 0-13-4 per maund. The distance from Khandwa to Jubbulpur is 263 miles, and that from Harda to Jubbulpur 200 miles, and yet Harda cotton has to bear a higher rate, though sent in wagon loads and Khandwa traffic has to pass through Harda. This comes about because the G. I. P. Ry. are charging a rate of ·80 pie per maund per mile on Harda traffic, against ·50 pie per maund per mile on Khandwa traffic. It would appear from the Indian Trade Journal that the Madras line have recently put up their rates perhaps following the example of the G. I. P. Ry.

RICE.

(The price of rice was matter of life and death to the millions during the period of dearth, and in view of the investigation that is now proceeding in the matter of rise in the prices, it will be useful to note some of the features which bear on the matter, especially having regard to the transport charges.

The rice acreage in India has since 1894 varied from 48,621,462 acres to 54,428,600 acres, of which Bengal accounts for 37,000,000 to 39,650,000 acres. Owing to unseasonable or ill-distributed rainfall or heavy rain and consequent floods, the rice crop of Bengal and of East Bengal and Assam suffered greatly during the years 1905 to 1908.)

The total outturn of clean rice in the two provinces in the season 1908-1909 was—286,586,800 cwts., and during the eleven months from 1st April to February 1908-1909, the weight of rice, not in the husk, exported, was 2,769,292 cwts., valued, to the extent of Rs. 2,16,64,458, the exports being principally to the United Kingdom, Germany, Austria-Hungary, Cape Colony, Ceylon, Straits Settlements &c.

During the time there was shortage in the outturn of rice in Bengal and of wheat and other low-grade food-staples in the United Provinces, Central India, Central Provinces, there were large imports of Burmah rice into India. The effect of extensive use of rice in Northern India is that the poorer classes have acquired a cultivated taste for rice. So long as the price of rice was cheaper than that of wheat, the mass took rice in preference to wheat, and sold the latter, and profited themselves to the extent of the difference between the prices of wheat and rice.

The price of Burmah rice in 1908, landed in Calcutta was Rs. 3-0-0 to Rs. 3-8-0 per maund, and the price of wheat in the United Provinces being over Rs. 5-0-0 per maund, the demand for Burmah rice was great, and the almost minimum rates, quoted by the Railways from Calcutta to up-country stations, materially helped the Burmah rice trade. The Railway freight from, say, Calcutta to Agra, during the time of scarcity was Re 0-6-7 per maund, so that the merchants were able to place Burmah rice up-country at Rs. 3-8-0 to Rs. 4-0-0 per maund.

It is held that it amounts to economic waste in transportation, when one district, producing a certain kind of food staple, is selling its produce to another district having the same kind of crop. But when food-stuffs are being imported into a country to meet the needs of certain provinces, it cannot be conducive to the well-being of the population, if the other provinces in India are exporting its production to foreign countries thousands of miles away. The development of inter-provincial trade is healthy to commerce, as such trade is free from influences of foreign market fluctuations, exchange, &c. The first aim should be to produce for the home market before trying to produce for the world's market.

The return of better agricultural conditions has suspended the imports of Burmah rice for food, although a certain quantity is still brought to India for starching purposes. There is, however, scope for business in low-grade Bengal rice in the United Provinces.

The price of coarse rice in Lower Bengal is said to be Rs. 3-4-0 to Rs. 3-9-0 per maund, and taking the lowest railway freight that can be quoted from, say, Burdwan to Allahabad, 447 miles, viz. Re. 0-3-9 per maund, the coarse Bengal rice can be placed in Allahabad or Mirzapore at Rs. 3-8-0 to Rs. 3-10-0 per maund. The price of wheat in October 1910 was 10 seers, 8 chittacks to the rupee, or, say, Rs. 3-14 per maund. Therefore, by taking rice and selling wheat, the ryots would have been benefited to the extent of 6 annas to 4 annas per maund.

The Railway freight of Rs. 0-3-9 per maund from Burdwan to Allahabad may appear very low, but seeing that on wheat exported from Oudh to Calcutta for shipment, the Railway Company from Moghulserai to Calcutta accepts Rs. 0-3-6 per maund, the former cannot be said to be an unreasonably low quotation; such as would leave no margin for profit. It may, however, be argued that the conditions, governing the low rate for shipment, are different to those attaching to the rice traffic in that the former is affected by the low rate of steamer freight from Bombay which is cheaper than the ocean freights from Calcutta to Europe, whereas the rate for rice from Lower Bengal to Allahabad or Mirzapore is not affected by any such condition. But the consideration of development of inter-provincial local trade, in which Indians alone are concerned from the time, the foodstaple is sown to the time it is consumed, ought to be greater in the matter of facilities afforded in the

way of low cost of transport than in the case of wheat shipped out of India. Professor Arthur Twining Hadley, the well-known writer on Economics, has said that for the permanent interests of a railway or a country, it is a bad policy to kill the local business. Anyhow the local traffic in rice from Burdwan to Allahabad would be new business to the railway. It is said that any rate, however low, which will yield a surplus, though small it may be, over expenses, directly incidental to the increment of traffic, and which thus contributes something towards indivisible joint costs, serves not only the carrier by increasing his gross earnings, but at the same time lightens the burden of fixed expenses upon balance of the traffic.

In spite of scarcity in India, there were the following exports of rice from Madras and Bengal to foreign countries during 1906-1909 :—

		From Madras. Cwts.	From Bengal. Cwts.
1906-1907	...	3,306,194	4,024,346
1907-1908	...	4,181,045	2,502,317
1908-1909	...	3,352,334	2,753,805
		10,839,573	9,280,468

It will be interesting to examine the position as to whether it was possible for any of the Madras rice to be imported into Northern India. Apart from the question of prices, it will be useful to see whether the railway freights were in any way against this. The total cost of transporting rice from Rangoon to Delhi, *via* the Calcutta port, including steamer freight, port dues, landing charges and railway freight, was Re. 0-12-9 per maund, whereas the railway freight from Guntur, a rice-producing station in the Madras Presidency, to Delhi over a lead

of 1553 miles, was Rs. 1-3-6 per maund, but it was possible for railways to quote a rate of Re. 0-12-11 per maund from Guntur to Delhi, without going below the Government minimum rate, which is considered to be a paying rate of railway freight. If Madras and Burmah were able to pour in rice in Northern India or in the affected parts in Behar at the same time, perhaps the price of food-stuff would not have been so high. It should be the business of railways to develop such interprovincial trade of the country.

Before closing the remarks on rice, it may be useful to observe that it may appear that in normal years it is not essential, under conditions seen to-day, to import Burmah rice into the country, but a recognised authority on Indian Agriculture has remarked that taking the density of population per square mile, India and other Asiatic possessions allow 3 acres per individual against 320 acres per individual in America.—The same authority has said that 'in another twenty years, unless agricultural operations keep pace with the increasing population or plague decimates the people at a still greater rate than it has been doing, the aspect of affairs may change entirely and India may have to look to foreign sources for food supply.' It has been suggested that India must learn to import food stuffs from those parts of the British Empire, where corn and grain are produced excessively cheaply. Therefore, the imports of cheap Burmah rice into India should always be encouraged, and same low Railway rates on imported Burmah rice as on export wheat might be quoted.

OIL, OIL-SEEDS AND OIL-CAKE.

The enormous amount of oil-seeds, exported from India, is out of all proportion to the quantity of oil shipped out of the country.

The export trade in principal kinds of oil-seeds was as follows during the official years :—

		1907-08.	1908-09	1909-10
Castor seed	cwts.	1,993,717	1,650,466	1,900,769
	Rs.	1,51,78,026	1,05,82,03	1,26,06,522
Cotton seed	cwts.	4,249,832	3,683.372	5,649,817
	Rs.	1,31,60,577	1,31,27,300	2,03,17,968
Ground-nut seed ...	cwts.	1,524,055	1,781,849	3,243,163
	Rs.	1,17,88,693	1,35,95,528	2,47,00,222
Linseed ...	cwts.	6,197,882	3,209,547	4,677,197
	Rs.	4,78,67,253	2,55,52,807	3,92,53,017
Poppy-seed	cwts.	1,256,562	790,028	853,140
	Rs.	1,25,21,086	83,00,583	80,91,356
Rape-seed	cwts.	5,343,420	2,765,776	6,629,313
	Rs.	4,32,55,886	2,36,93,033	4,68,32,420
Til or Gin-gilly seed	cwts.	1,553,378	1,657,292	2,983,630
	Rs.	1,69,17,266	1,62,61,076	2,65,91,511

The trade in oil-seeds is one of first importance, exceeding greatly the trade in wheat, but the phase of the oil industry in India is still an agricultural one, namely, the cultivation of oil-seeds crops for the export market, and the endeavour should be to divert the attention of the people so as to change the phase from an agricultural industry to a manufacturing one, as not only the Indians are at present deprived of the enormous profit between the prices of seed and oil, but the

country is being impoverished in its supply of manure and cattle-food.

The shipments of oil-seeds are to the United Kingdom and the Continent. A certain quantity of linseed is also imported into Europe from LaPlata, and rape-seed from Azoff, Navetts and Jamba, but the Indian oil-seed productions fetch higher value, and the quantity exported from India is comparatively very large. It was remarked in 1891 in Dr. Watt's "Dictionary of Economic Products of India" that Mills for the preparation of oils in India would prove highly remunerative. Since then Oil Mills have been started in Lower Bengal, which have to a large extent replaced the crude Indian wooden mills, known as "Ghanis", worked by bullocks. The oil produced is chiefly used in India, a certain quantity being exported from India to the Far East. The following were the exports from India of prepared oils for the past three official years :—

	1907-08 Gallons.	1908-09 Gallons.	1909-10 Gallons.
Castor Oil ...	1,508,545	1,099,967	1,003,047
Linseed Oil ...	50,524	36,485	293,201
Mustard or rape oil	273,465	170,675	306,212
Til Oil ...	161,581	174,210	241,475

Of these oil exports, Castor oil form by far the largest proportion; but the quantity of linseed and mustard oils exported was comparatively very small, in spite of the fact that the production of these two kinds of seeds is far in excess of castor seed.

The trade in linseed oil is a paying one, but the Indian enterprise has not taken up the manufacture of linseed oil in right earnest. There are one or two linseed oil mills in India, the principal ones being the Gouripore Oil Mills, and it

is said that the oil produced in these Mills is quite up to the standard required in England. The linseed yields about one fourth of its weight of oil. Among many other uses of oil, the following are specially mentioned :—

1. For human consumption.
2. For illumination.
3. For paint, lubrication of machinery, preparation of oil cloth and mordants in dyeing.
4. For candle-making.
5. For soap-making.
6. For medicinal purposes.

To an Indian, oil is chiefly an article of diet, and as for illumination, the mineral oil is fast replacing vegetable oil. The other important use of mustard oil in India is the anointment of the person. The use of oil in India for paints, soap-making or candle-making is yet an unimportant one, although during the past five or six years, soap factories have been started in India, and these factories use gingilly oil, ground-nut oil, cocoanut and mowha oil for soap-making.

Cotton seeds are largely exported from India. Recently Mills have been started in Cawnpore for extracting oil from cotton seeds, and the use of this oil in mixing with ghee is suggested to be a very profitable one, but the oil has not yet been so freely used in this direction because of limited supply.

Cotton seed is one of the important items of fodder for cattle, and it is said that this food gives more cream to the milk. When there was scarcity of fodder in Northern India, the Railways carried an enormous traffic in cotton seeds, for which very low rates were then charged. An export duty on

cotton seeds would not be a bad thing for the agricultural classes.

Oil-cakes are regarded as articles of food for cattle or as manures. In Europe much less is said of the uses of these by-products as manure than as articles of food. In India while castor-seed cakes are used as manure, mustard and linseed cakes are used for cattle food. One of the greatest boons of the production of oils in India would be that the agricultural classes would greatly benefit by a large quantity of nutritious cattle fodder being available in India. The oil-cake exports from India during eleven months, April to February 1908-1909, amounted to 1, 286,163 cwts., valued to the extent of Rs,52,27, 128-or say, Rs. 4 per cwt. or Rs. 80 per ton, whereas the value of London-made linseed cake is £8 to £9 per ton, or say, Rs. 120 to Rs. 135 per ton so that there is a margin of Rs. 40 per ton between the Calcutta and London prices of oil-cakes to admit of any business being done in cakes to the profit of the Indian traders, although the aim should be to retain these cakes in India.

In India lowest possible Railway rates have been granted for seeds exported from the United Provinces to Europe, but for oil the Railway rates are the ordinary classified rates. A ton of linseed from Cawnpore to Calcutta has to pay Rs. 8-15-0 per ton against Rs. 30-0-0 per ton on oil. Similarly cotton seed for export has the benefit of the lowest Railway rates for seeds, but oil-cake or cotton seed consumed in the country is not allowed the same low rates on all Indian Railways. Some of the Railways in India are liberal in their rates for oil-cake and cotton seeds; for instance, the Oudh and Rohilkhund Railway charges Rs. 0-2-6 per wagon per mile on oil-cake, whereas the charge on the East Indian Railway and

other lines is practically double, *viz.* 4 to 5 annas per wagon mile. Surely an article of cattle food or manure should have, in an agricultural country like India, lower rates than those for wheat or seeds for export.

SUGARCANE.

The sugarcane plantation in India is not showing signs of any improvement. The number of acres under cultivation in 1898-99 was 2,485,681, and this figure was only exceeded during the seasons of 1899-1900 and in 1907-1908, but the season of 1908-09 records a smaller figure of 2,184,000, and at the same time while the outturn in 1898-99 was 2,076,234 tons, it diminished to 1,841,800, tons in 1908-1909. These results are not very encouraging. The same stereotyped reasons are assigned from year to year for unfavourable conditions, such as "rainfall heavy, water supply dificient, season not favourable on the whole" &c. &c. While these reasons are somewhat to the point in accounting for the less outturn, they are not sufficient to account for the less acreage under sugarcane plantation. It cannot be said that the demand for sugar in India is decreasing, because there has been a steady rise in the imports of foreign sugar. During the six months from 1st April to 30th September 1910, sugar, valued at Rs. 5,91,69,703 or, say, 6 crores of rupees, was imported into India, and in comparison with 1909 and 1910 the imports have grown considerably greater. Therefore, it cannot be said that the demand for sugar has been in any way less, and the natural tendency is that when the demand is on the increase, the area under cultivation should also be on the rise, although at times the outturn may be less owing to unfavourable season. It may be that the cheap Java and Mauritius sugar stands better in competition with the indigenous productions, but the imported

commodity in a case like this should not receive preferential treatment from the Railways in India. It is known that the Railway rates for the imported sugar are much lower than that for the country produce, and it is now further observed that in the new Railway Classification, while the Railway risk rate for raw sugar (Gur) and unrefined sugar has been fixed at $\frac{1}{2}$ pie per maund per mile (2nd class) that for the imported refined sugar is 1st class, (or $\frac{1}{3}$ pie per maund per mile) so that the difference in the Railway risk rates for the two commodities is 50 per cent. in favour of the imported article. While the majortiy of the Station to Station lump sum rates for sugar and gur are the same.

Such a course on the part of the Railways can hardly tend to the industrial development of the country. It is said that there is much waste in India owing to sugar not being manufactured straight away from the sugarcane juice, but from Gur or Jaggree. It is observed in the Hand Book on Agriculture in India by N. G. Mukerji that a slightly increased local produce, the general introduction among cultivators of the knowledge of making white sugar (good enough for all ordinary use) and some improvement in the existing position of the sugar factories in India may altogether kill the import trade in sugar. It should be our aim that the 6 crores of rupees, paid by the Indian people during six months to foreigners for sugar, should be retained in India.

It is said that according to present calculation on the assured beet crop and the prospective cane crop., the world's supply of sugar crops will, in the current sugar year, exceed by about 1,700,000 to 1,800,000 tons, the harvests of last year

It is further observed that by instituting improvements in the cultivation and specially in the manufacture of sugar a vast impetus can be given to this industry. This encouragement

is said to be necessary to cheapen the price of the raw article (gur) and if the European factories in India can get cheap "gur" they can not only stop the import of beet and other sugar but actually invade the markets of Europe and America; therefore cheap Railway rates for "gur" are essential, instead of equal rates for sugar and "gur" charged by most Railways in India. It is, very likely that foreign sugar will, on account of its cheapness, continue to be imported into India in larger quantities. On sugar imported into India, there is a 5 per cent. duty, besides additional duties on bounty-fed sugar from the Argentine Republic, Chilie and Denmark, the object aimed at by the Government being to discourage the imports of foreign sugar and to give an impetus to the indigenous productions, but it is a question whether the Railways in India also take the same view. Now the railway rate for imported sugar from Bombay to Cawnpore, 839 miles, is Rs. 0-12-7 per maund, whereas the Railway rate from Cawnpore to Akola on sugar produced in Oudh is Rs. 1-2-4 per maund for a lead of 649 miles only. It is very likely that the low rate from Bombay to Cawnpore has been the effect of competition between the Railways, serving the Calcutta and Bombay ports, to secure the imported sugar trade of Cawnpore, and not the effect of a request from the trade. Let us take another instance. The Railway rate on sugar from Bombay to Nagpore, 522 miles, is Rs. 151 per wagon for 299 maunds or 8 annas per maund, which works out to ·18 pie per maund per mile; whereas the Railway rate from Cawnpore to Nagpore, 806 miles, is Rs. 1-0-3 per maund. At first sight, it would appear that naturally the Railway rate from Cawnpore to Nagpore, is higher than the rate from Bombay to Nagpore, as the distance from Bombay to Nagpore is 184 miles shorter than the distance from Cawnpore to Nagpore, but if the matter is analysed, it

will be observed that the rate from Cawnpore to Nagpore works out to ·24 pie per maund per mile. The traffic in sugar from Bombay to Nagpore is in the imported commodity, whereas that from Cawnpore to Nagpore is in the indegenous production, *and generally the Railway rates per mile all over the world, grow cheaper as the distance increases, i.e.,* for a longer distance the charge per mile is less than the charge per mile for a shorter distance. *But quite reverse is the case here.*

There must be several instances of such rates for sugar in the tariffs of Indian Railways; and following the example of the Government, they should cancel the low rates for imported sugar, and reduce the rates for sugar produced in India.

Jute.

The cultivation of jute in India is rapidly advancing owing to increased demand for the fibre, and the unique circumstance is, that so far, Bengal and Eastern Bengal and Assam have practically retained the monopoly of the trade. This year, however, an entirely new feature has cropped up in connection with the jute cultivation, in that jute has been grown in the United Provinces, in the districts adjacent to Delhi, and prepared jute has been received in Calcutta from these parts.

The following table shews the acreage under jute cultivation during the years mentioned below :—

	Total acres.	Bengal & Eastern Bengal & Assam. acres.	Cooch Behar acres.
1895	2,242,700	2,242,700	nil.
1901	2,263,800	2,263,800	nil.
1904	2,899,700	2,879,700	20,000
1905	3,128,300	3,128,300	not reported.
1906	3,482,900	3,482,900	"
1907	3,974,300	3,942,300	32,000
1909	2,776,600	2,756,600	20,000

In the province of Eastern Bengal, the area under jute cultivation is estimated this year to be 2,244,800 acres or an increase of 43,600 acres over last year's area.

(The districts where jute is most cultivated are Purnea, Tippera, Rungpur, Mymensingh, Dacca, Faridpur, Rajshahi, Jalpaiguri and Goalpara.)

(A few years ago, a rumour was current that the extensive cultivation of jute was detrimental to rice production, and that this was, to some extent, responsible for the high prices of rice ruling a couple of years ago. Whether or not the increased area under jute cultivation had anything to do with the rise in the prices of rice will perhaps form the subject of careful investigation on the part of those Government officials, who are at present engaged in carrying on enquiries regarding high prices of food staples.)

The high prices of rice prevailed during 1905 to 1908, and curiously enough these years were rather good for jute, especially the season 1906-1907. The following were the areas under *rice cultivation* in Bengal and East Bengal in the years mentioned below :—

	Acres	
1895-1896	37,447,600	Bengal including East Bengal.
1897-1898	39,549,500	
1899-1900	39,490,500	
1901-1902	35,094,800	
1905-1906	41,110,800	Bengal & East Bengal & Assam.
1906-1907	40,239,500	

It will be seen, however, that the rice acreage in the two Provinces *has not diminished*, but, of course, the outturn was decidedly less because of unfavourable seasons, such as unreasonable or ill-distributed rain or floods, which had the effect of adversely affecting the rice crop in Bengal in 1905-1908.

Even admitting for argument's sake that there was some truth in the statement that jute crop affects the rice crop, and it may be that the extensive cultivation of jute has to some extent retarded the further development of rice cultivation, if it has not actually reduced rice acreage, would that be sufficient reason for *discouraging* jute cultivation ? Why so much is said about increasing the cotton cultivation is because cotton pays the ryots better, but it may be argued, as in the case of jute, that the land put under cotton cultivation might be used for sowings of food staples, such as jowar and pulses, which are grown at the same time as cotton. But no one has yet said that the cultivation of cotton should be put aside, and that food staples only should be grown, so as to prevent high prices. *Such a suggestion can only mean that the industrial development of the country must be sacrificed to cultivation of "food staples."* In the United Provinces, *jowar* and *arhar* are sown in the same field as cotton, and at the same time.

The following statement shews the quantity and value of raw jute exports from India during the seasons 1906 to 1910 :—

		Cwts.	Rs.
1906-07	...	14,089,203	24,12,49,833
1907-08	...	12,602,336	15,70,83,981
1908-09	...	15,805,122	16,81,90,792
1909-10	...	14,608,363	15,02,30,580

Taking the various qualities of jute, the export prices in Calcutta in the month of December were as given below since 1906 :—

		Rs. per 400 lb. bale.	Rs. per maund.
1910	...	37 to 55	7 to 11
1909	...	29 to 35½	5¾ to 7
1908	...	24 to 40	4¾ to 8
1907	...	25 to 52	5 to 10
1906	...	59 to 61	11½ to 12

Making allowance for the cost of oil-cake manure, which is said to be very beneficial to jute, it is estimated that the cost of producing a maund of jute in some of the districts in East Bengal where labour is dear, is about Rs. 4 to Rs. 4-8 per maund, and adding an extra rupee to cover the cost of transport and baling, the profit, according to prices now current in Calcutta, would not be less than Rs. 2-8 per maund, taking the ordinary quality of jute selling in Calcutta at Rs. 37 per bale of 400 lbs. or say Rs. 7 per maund. Thus, the profits to the ryots on jute grown in Bengal and East Bengal must be crores of rupees, which means assisting India substantially in improving the condition of the cultivators. *Therefore, in the interest of the ryots, the produce which pays them the best ought not to be discouraged.*

The exports of raw jute are principally to the following countries:—

United Kingdom.

Germany.

United States of America.

France.

Austria-Hungary.

Italy.

In India, the jute manufacturers simply turn out gunny bags, tarpaulins and hessians. There are more than 40 Jute Mills in India, but they are nearly all owned and worked by European capitalists; those mills have however, done a lot of good to this country by giving employment to a vast number of Indian labourers. But there is no reason why Indians should not take up the "jute milling industry."

In European countries, jute is also used in the manufacture of curtains, rugs, shirtings, &c., and with the problem of clothing the 33 crores of Indians out of India's own manufactories before us, it is to be wondered why the question of using jute for clothes and shirtings has not drawn the attention of the Indian milling industries. This has perhaps been so, because the number of mills in India manufacturing piece-goods, is not yet very large, and they get full supply of cotton to meet all their present limited requirements.

Out of gunny bags and gunnies turned out by the mills in Bengal, a very large portion is used in India in bagging grain, seeds, cotton &c., but yet the exports of gunny from Calcutta to foreign countries amounted to no less than 43,572,079 yards during the season 1908-1909. Anyhow it is said that so far the trade in "jute raw" is more important to the ryots than the trade "in gunnies". The Indian jute manufactories consume much less "raw jute," compared with the quantity of "raw jute" exported out of India.

The railway rates for jute on the E. B. S. Railway are governed more or less by river competition. Although the classified rate is 3rd class, which means that the charge by rail must be graduated within the maximum and minimum limits of $\frac{2}{3}$rd pie and $\frac{1}{6}$th pie per maund per mile respectively, the rates

actually levied are low. But the peculiarity of the jute rates is that during the period from 1st July to 31st October, the railway rates are maintained at a higher figure, and are known as "busy-season rates," and for the rest of the period lower rates are charged. This comes about because of the reason that the Steamer Companies charge higher rates during the jute season, when the despatches are heavy, and both the railways and steamers have, at times, more traffic thrown on them during the busy season, than they can carry. Formerly the East Indian Railway classification for jute used to be 1st class or $\frac{1}{3}$rd pie per maund per mile, *i.e.*, no higher rate than this figure was charged, but apparently because the great jute carrying line of India, *viz.*, the Eastern Bengal State Railway, have in their tariff the 3rd class rate ($\frac{2}{3}$rd pie) as the maximum, the higher classification has been adopted by the East Indian Railway as well. But it must be remembered that it is rarely that the maximum classified rate of 3rd class or $\frac{2}{3}$rd pie is charged over the E. B. S. Railway, the great bulk of the traffic being carried at special lump sum rates. For instance, the railway busy-season rates for "baled jute" to Calcutta (Chitpur) are as follows from the under-mentioned stations :—

		Rate per Md.			Rate per Md per mile.
		Rs.	A.	P.	Pies.
Dinajpore	...	0	6	10	·31
Rungpur	...	0	6	11	·31
Dalkola	...	0	6	9	·28
Purnea	...	0	6	9	·27

It will be seen that the rates actually charged are much less than the maximum rate of $\frac{2}{3}$rd or ·66 pie per maund per mile, and the reason for these low rates being charged is because there is competition between Railways themselves *via*

Manihari Ghat and *via* Godagari, and between Steamer Companies and the Railways. Where the Railway Companies are not affected by competition, the maximum rates prevail, because of the monopoly of carriage. Owing to the raising of the classification from "1st class" to "third class", in some instances, the rates have been doubled. This enhancement will affect the trade at centres, where the business is not large, and is carried over Railways in small quantities for comparatively short lengths; this is practically discouraging the cultivators, whose growings are small, and where the jute cultivation has not yet passed the experimental stage.

WHEAT FLOUR.

The wheat exports of India are out of all proportion to the comparatively small quantity of wheat flour, shipped from the country. The figures of exports of both these articles of commerce are shewn below side by side :—

	wheat cwts.	wheat flour cwts.
1907-08	17,609,183	744,380
1908-09	2,195,145	602,087
1909-10	21,011,484	701,082

The years 1907-1908 were unfavourable to the wheat crop of India, but the year 1909 saw the return of favourable conditions as to wheat production. It is observed that during the twelve months from 1st April 1909 to 31st March 1910, more than 21 millions of cwts. of wheat were exported, whereas the shipments of flour were but 7 hundreds of thousands cwts. or the proportion of flour exports to those of wheat *was so insignificant as three per cent.*

The value of 21,011,484 cwts. of wheat exported in 1909-1910 amounted to Rs. 12,70,90,884 or Rs. 6 per cwt. or, say Rs. 4-7-0 per maund, while the value of 701,082 cwts. of flour shipped out of India was Rs. 59,38,155 or Rs. 8-7-0 per cwt. or Rs. 6-4-0 per maund, so that if India could export wheat flour instead of wheat, her gain would be, say, Rs. 1-8-0 per maund or much more than 3 crores of rupees per annum. It is said that low grade of flour is produced in the flouring mills in India, but that the cost of transport comes in the way of any extensive business being done in export flour; the quality of wheat flour is not so much against expansion of flour trade abroad for the large exports of the American flour are of low grades of productions.

The railway rates for wheat and flour from the following wheat markets and flour milling centres to the Calcutta port are as given below:—

	Wheat Per maund.			Flour Per maund.			Difference in favour of wheat Per ton.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Delhi ...	0	7	6	0	8	6	1	11	0
Agra ...	0	6	7	0	8	6	3	2	0
Cawnpore	0	5	3	0	7	11	4	8	0

Similar discriminations between the railway rates for wheat and flour will be found in the charges to both Bombay and Karachi. It will be seen that the difference between the railway rates for wheat and flour vary from Rs. 1-11-0 to Rs. 4-8-0 per ton in favour of the former. "It is true that the raw material commonly takes a lower rate than the raw manufactured

product, and for this there is usually a substantial reason in the character of the two commodities, *viz* wheat and flour, but this is not by any means an universal rule, *and the uniform practice of carriers in America for years has been to make the same rate upon export wheat and flour*"; and this probably accounts for the United States being the only country producing wheat, which exports large quantities of flour. It is held that higher transport charges on wheat than on flour are not beneficial to a country largely producing wheat, for it is a fact that the English millers, taking wheat in enormous quantities mill not only for home consumption, but for foreign markets as well, and the Americans hold the view that it is not right that English millers should profit at the cost of American millers, and it was for this reason that the railway rates for export wheat and flour were made the same, to assist the latter. *What applies, in this case to America, applies equally* to India the conditions being identically the same as to wheat trade.

Indian wheat yields the largest percentage of flour as compared with English, Australian or Russian wheat. The yields of flour of Indian wheat are 75 to 77 per cent., whereas the English wheat yields 69 per cent. Australian wheat 72 per cent. and Russian wheat 72 per cent.

If railway rates were fixed on the basis of the price of a commodity, it is correct that export flour is probably, on the whole, more valuable than wheat, but from the point of view that India would benefit to the extent of more than 3 crores of rupees if flour is exported instead of wheat, the railways should offer every facility in advancing the flour milling industry of the country. In fact, on this ground lower railway rates for export flour than for export wheat might reasonably be advocated and low rate of Railway freight for wheat to the Indian flour mills will also be greatly appreciated.

It is true that the reduction in railway rates alone would not be sufficient, as the total cost of transport to the consuming markets would have to be cheapened, and the steamer companies should also be approached with the view to same ocean freights being fixed for flour as for wheat on the ground that the space occupied would practically be the same in both cases, and the amount of business done, so far as tonnage is concerned, would also not be affected to any extent.

Millets, Indian Corn and Pulses.

Next to wheat and rice, pulses, millets and Indian corn are important crops from the point of view of food staples, and as millets (Juar) and Indian corn (Bhutta) are sown and reaped before the wheat sowings commence, the usefulness of these cheap food stuffs, in case there is a failure of the wheat crop, is great, especially in the Provinces, where rice is not an important item of agriculture.

Millet.—The "Juar" crop is of minor importance in Bengal, but in some of the districts of Southern India it is used as food staple, and the total acreage of Juar crop in British India is over 21,000,000 acres, the yield per acre being 686 lbs. Bajra comes next, and the area under this crop is estimated at 14,137,817 acres, the yield being 550 lbs per acre; and the land under ragi and maize cultivation is also not less than 9,500,000 acres.

While Juar, bajra and bhutta supply food to the poorer classes, the crops yield a large amount of fodder for cattle, and in the United Provinces and Behar green and dry juar and bajra stalks are freely given to the cattle as fodder mixed with oil cake or bran. It is ascertained that juar crop yields 10 times as much fuel and fodder as wheat or rice.

Pulses.—Are grown in almost every part of India and it is estimated that the pulses occupy a larger area than even wheat in British India, the total acreage being estimated at 48,000,000, and amongst pulses, gram occupy the most important place, and it is very useful to the cultivators as it requires no irrigation.

A few years ago it was remarked that the trade in millets, Indian corn and pulses was mostly internal, and this is as it should be because it is only fair that the poorer classes should be able to retain cheap productions, for food, and trade in the high priced products and thus increase their wealth. Of recent years, the export trade in these commodities is gradually growing into some importance, and it is observed that during a year nearly two crores of worth of millets, maize and pulses are exported from India. The export trade in these commodities was as follows:—

Official years.	Cwts.	Rs.
1907-08	3,372,594	1,41,63,045
1908-09	1,449,172	73,56,122
1909-10	4,447,844	1,84,57,454

The following were prices of gram and arhar in Behar and the United Provinces during 1910:—

		Seers per rupee Gram.	Seers per rupee Arhar.
Bhagalpur	...	15 to 18 seers	11 to 13 seers
Patna	...	15 to 16 ,,	12 to 13 ,,
Mirzapur	...	13 to 16 ,,	10 to 13 ,,
Allahabad	...	15 to 18 ,,	11 to 15 ,,
Agra	...	15 to 16 ,,	10 to 13 ,,

Thus the average price of gram was say Rs. 2-8-0 per maund and of arhar Rs. 3-1-0 in the producing districts and the Railway freight from these places to Calcutta was as follows :—

Miles.		Rate per maund.
265	Bhagalpur	Re. 0-3-4
332	Patna	,, 0-4-8
458	Mirzapur	,, 0-5-3
514	Allahabad	,, 0-5-3
790	Agra	,, 0-6-7

These rates are low but they are intended more or less for the export trade, but the railway freight for the internal trade in the country is not so favourable. The railway freight on pulses from Bhagalpur to Cuttack, via Howrah, the cheapest route, is Re. 0-10-5 per maund, over a distance of 519 miles, whereas the freight from Allahabad to Calcutta, 514 miles, is nearly half, *viz.*, Re. 0-5-3 per maund. These railway rates apply equally to millets and Indian corn, and it is to the interest of the poorer classes to encourage cultivation of these crops as producing food staples for the ryots and fodder for their cattle, especially as millets and Indian corn do not interfere with the wheat crop, and, therefore, the railway rates for internal consumption should in no case be 100 per cent higher than those for export, especially for the longer distances, as in railway transportation a limit is reached beyond which the high railway rate tells adversely on the expansion of trade. In the case of pulses from Bhagalpur to Cuttack, the railway freight means an addition of 21 per cent on the price of this food staple at Bhagalpur.

INDIAN COAL.

The remarkable expansion of the coal output has enabled India to hold the first position amongst the coal-producing dependencies of the British Empire. The raisings in India are not much below the quantity raised in Japan, but are in excess of the output of Australia, Transval, Natal, or British Columbia. But the total weight of coal, raised in the United Kingdom, is yet nearly 24 times as much, when compared with the tons of coal raised in India in a year.

Cheap coal is an essential to any real progress in industrial development of the country; and cheap fuel is again bound up in the question of cheap railway carriage not only in connection with the export trade, but also on the long lead between the collieries and the consuming market, but it will be demonstrated later on that the railways have done more in this direction than perhaps was expected at the time the trade was agitating for reduced railway rates not very long ago. The railways in India have, however, been as much benefited by the reduction as the public, if not more. But above all, if one likes to see mill chimneys vomiting forth clouds of smoke in every part of India, the first care of the wellwishers of India's future industrial development should be to see that India can at all times command cheap coal.

Sir George Watt's Dictionary of Economic Products of India tells us that about 1884 the estimated amount of coal available (exclusive of waste) in Bengal, was 14,080,000,000 tons, *viz.*, 14,000,000,000 tons in the Raniganj Field; 80,000,000 tons in the Karharbari or Giridih Field.

The quantity of coal, mined in Bengal during the 9 years from 1885 to 1893, was 13,747,825 tons; or towards the end of 1893, the available coal in the two fields named herein was 14,066,252,175 tons.

The Jherria field was opened in 1893, and the estimate of Sir George Watts in 1889 was that the available coal in the Damudar Valley (which includes the Jherria, North Karanpara and South Karanpara Fields) was as follows :

Jherria Field ...	...	465,000,000 tons.
North Karanpara	...	8,750,000,000 tons.
South Karanpara	...	75,000,000 tons.

It cannot be said how far these estimates are correct, but from the heavy raisings in the Jherria Field and subsequent investigations, it would seem that if there has been a mistake, it has been on the side of moderation. Anyhow these figures shew that in 1894, the quantity of available coal in Bengal was 23,356,252,175 tons.

During 15 years from 1894 to 1909, the raisings amounted to no less than 96,805,059 tons, and assuming that the coal mined in 1910 in these fields, was more than in 1908, the total coal, now available in the three fields, mentioned (*viz.* Raniganj Jherria, and Giridih), would be some what near 23,000, 000,000 tons in round figures. The output in a year in Bengal comes to, say, 1,2,000,000 tons, and accepting that this figure will be very nearly doubled in, say, 7 years and quadrupled in about 10 years, there is enough coal in the land to meet any future development for many many years, but every year the mining operations will be deeper, which will mean greater cost and more risk in raising. There are other important coal mines in *India, which have been discovered,* for instance, the Ramgarh and Bokaro fields, but these are not being worked for want of railway communication. The Government of India and the coal trade have already directed their attention in this direction, and in reasonable time the

communications will be provided. There does not appear to be any great necessity for any further rapid development in coal mining, as the evils of over production have lately been keenly felt, and it is said that out of the raisings every year, the lower grade of coal, known as the second class quality, only came to sight, but did not find purchasers.

In 1908, the total quantity of Indian coal mined was 12,769,635 tons, of which the coal fields in Bengal accounted for quite 90 per cent. The interesting note of the Director-General of Commercial Intelligence, issued towards the end of October last, on the coal production and consumption, in 1909, shews that Jherria contributed 49·1 per cent. Raniganj 34 per cent. and Giridih 5 per cent. so that in 1909, the raisings in Bengal were over 88 per cent. of the total coal produced in India in that year. The exports of coal to foreign countries and the "bunker coal," used on steamers touching Indian ports was 18,49,150 tons or 16 per cent. of the total output.

Before proceeding to remark upon export coal, it will be more useful to deal with the internal coal trade of the country. The use of coal for domestic purposes is yet confined to the districts situated at distances of not more than, say, 250 miles from the coal-fields. By far the greatest quantity of coal consumed inland is by railways and partly by mills (cotton and jute) factories, foundries, steamers plying on Indian rivers, and for brick burning.

It has very often been remarked that if coal is freely used as domestic fuel in all parts of India, the agricultural classes would be able to obtain an abundant supply of "cow-dung" for manure. Further although the opening of new railways have placed several forest tracts within the reach of the thickly inhabited parts for the latter to draw the supply of firewood from these forests, and it is also to the interest of the country

that the jungles should be cleared to allow of more cultivable land being available for agricultural operations, it is equally essential to the well-being of the people that tracts of land should not be denuded of trees for miles together, as it is said the effect of trees in equalising temperature and the distribution of rain and in entrapping rain is universally recognised. The cutting down of trees in millions every year has been the cause of rain fall in India becoming more capricious. Therefore, the expansion of coal trade for domestic fuel is really very important, and the development of coal traffic in this direction is really the future of the coal trade of India. It is said on authority that in some parts, the real difficulty against the use of coal is the want of suitable "choolas" to minimise the discomforts from smoke from coal in an Indian hut and suitable for baking hand-made "chapattis". There is a great future for any one who will undertake the invention of such "choolas", and place them within the reach of the people in the districts far away from the coal-fields along with cheap coal. In Bengal the same difficulty exists as to "choolas", but the very high price of firewood, compared with the cheap price of coal, has more or less been the main cause of use of coal as fuel for cooking in preference to firewood or dried cow-dung, but in Bengal dried jute plant stalks, dried cow-dung, or kerosine oil, is still used in kindling the fire.

It cannot at this moment be argued that the high price of coal prevents it from being used more extensively as fuel for cooking; there must be some other reasons, such as those mentioned above, operating against the universal use of coal in India for cooking. It may be interesting to know that in Agra the price of "ghootias" or dried cow-dung is 12 annas per maund, or say, Rs. 20 per ton, whereas coal can now be had in Agra at, say, Rs. 12 per ton, including all charges (not

excluding the middle man's profits). In Benares the price of retail firewood is usually 6 annas per maund, or, say, Rs. 10 per ton, but the price of coal in Benares cannot be more than Rs. 8 per ton. It is true that cheapness of price must have its effect in the long run, but if coal is sold in carts from door to door, and suitable "choolas" are supplied at the same time, the effect will be quicker. Any enterprise in this direction on the lines indicated will be amply repaid.

As already remarked, the Railways in India consumed the largest quantity of coal produced in the country; during 1909, the weight of coal so consumed was 3,689,093 tons: an idea of the increase of coal, used by railways, can be better imagined, when it is pointed out that in the year 1905 (*i. e.* before the existing low railway rates came into operation) the quantity of coal, used on railways, was 2,668,424 tons or in the space of three years the consumption under this head has gone up by more than 1,000,000 tons. Therefore, it is correct to say that Indian Railways have equally profited with the Indian industries by the reduction in coal rates.

The following were the prices of coal since 1904 per ton loaded into railway wagons:—

	Jherria.	Raniganj.
1904	Rs. 1-12 to Rs. 2-4	Rs. 2-0 to Rs. 2-8
1905	Rs. 1-14 to „ 2-12	Rs. 2-8 to „ 3-4
1906	Rs. 3-0 to „ 5-0	Rs. 3-8 to „ 4-8
1907	Rs. 3-8 to „ 4-4	Rs. 3-8 to „ 4-0
1908	Rs. 4-8 to „ 5-0	Rs. 4-0 to „ 5-0
1909	Rs. 2-0 to „ 4-8	Rs. 2-0 to „ 3-8
	First class.	
1910	Rs. 3 to Rs. 3-4	Rs. 3 to Rs. 3-8
	Second class.	
	Rs. 1-12 to Rs. 2-4	Rs. 1-8 to Rs. 2-0

It will be seen that high prices prevailed in the years 1906 to 1908, the effect of which is so well known that it does not require much recapitulation beyond the remark that the markets in the far East, Ceylon, and the railways in Western India were compelled to turn their attention to Natal and Australia for their coal. The large profits, made by the colliery proprietors in India, did not satisfy them, and they were so expectant of prices going higher and higher that they were reluctant to make forward contracts, which drove their customers, principally railways, to buy far in excess of their actual requirements, although this course meant blocking up of enormous sums of money without interest, but even this they were ready to risk as the fear and the serious consequences of rapid increase in the prices was great. The mills in Ahmedabad, which had been taking Bengal coal, were compelled to use wood from the Godhra and Rutlam forests. Besides the smaller collieries which were perhaps aware that they would not survive in the long run, and were therefore most anxious to make as much profit as possible to bring quick and large returns on their capital, did not take so much care to keep to the quality of coal, they contracted to supply. Thus Bengal coal got a bad name. This is however, not said of respectable miners. Such a condition can never succeed in establishing the prosperity of any trade on a sound basis, nor can it be considered beneficial to the country.

Even the colliery proprietors, who in their short-sighted policy raised the prices to almost impossible figures, had to suffer in the long run, for the slump in the coal trade, the result of the loss of some of the important foreign markets. and the overstudding of the coal depots of Indian railways, causing supplies to be in excess of the demand. affected the colliery people seriously towards the end of 1908 and in 1909.

Some idea of the rise in the prices at the consuming markets can be formed when it is shewn that Bengal coal was available in 1905 in Bombay at prices varying between Rs. 10-0 to Rs. 12-0 per ton, against the price of English coal at Rs. 12-8 to Rs. 18-6 per ton, but during 1907 and 1908 Bengal coal was selling in Bombay at Rs. 16 and Rs. 17 per ton respectively, but at the present moment the prices have come down to Rs. 13-4 to Rs. 13-8 per ton. Now that the time for cheap coal has come, it is to be hoped that the local consumption of coal in India would be greater every year. It has been lately remarked in *Capital* that if coal were used in the Cantonments, where European troops are stationed in India, there would be a saving of some lakhs of rupees to the Government.

During the last 9 years, there have been two reductions in the coal rates; the first one in August 1902 was not a big one, but the last one in November 1906 was a very liberal one The statement appended below will shew the rates in 1901 1902, and 1907 from the Jherria Field to the following places in Upper India :—

	1901 Per ton.			1902 Per ton.			1907 Per ton.		
	Rs.	A.	P.	Rs.	A.	P.	Rs	A.	P.
Patna ...	4	15	0	4	2	0	3	9	0
Benares ...	8	1	0	6	2	0	4	2	0
Cawnpore	11	1	0	8	15	0	5	15	0
Agra ...	13	5	0	10	15	0	7	1	0
Delhi ...	14	14	0	12	5	0	7	15	0
Lahore ...	19	5	0	16	9	0	9	13	0
Bombay ...	21	4	0	21	7	0	11	4	0
Karachi ...	27	13	0	25	2	0	12	10	0

The railway rates from Jherria to Lahore, Karachi and Bombay, were reduced in 1906 by 41, 48 and 50 per cent respectively. With such a reduction, the area of consumption has increased considerably, and the quantity of coal raised during 1905 to 1910 was as follows :—

	Tons.
1905	8,417,739
1906	9,783,251
1907	11,147,339
1908	12,769,335
1909	11,870,064

Compared with 1905, the output was 66 per cent. more in 1908. This expansion of the trade is the direct result of coal rate reduction. Taking the case of Lahore, it would be seen that the railway rate was reduced in 1906 from Rs. 16-9 to Rs. 9-13 per ton or by Rs. 6-12.

The quantities of Indian coal exported by sea to the Indian ports and the ports outside India, were as under in 1905, 1908 and 1909 :—

	To Indian Ports excluding Burma.	To Ports outside India, including Burmah.
	Tons	Tons.
1905	1,635,263	1,144,680
1908	2,124,642	1,045,695
1909	1,716,823	912,154

The export trade by sea has not flourished; the exports to Indian ports have increased, but those to ports outside India have diminished.

To the Indian ports also, the exports have not been so large, as some of the coal for Bombay, Karachi, Madras &c, is now carried inland by rail. During 1909, the figures of exports from Calcutta to Indian ports were as given below .—

Bombay	844,336 tons
Chittagong	28,714 „
Coconada	500 „
Cuddalore	37,550 „
Karachi	449,612 „
Madras	181,965 „
Mormugao	68,870 „
Negapatam	29,889 „
Pondicherry	13,227 „
Tuticorin	2,350 „
	1,657,013 tons.
Other Indian ports	59,810 „
	1,716,823 tons.

The low railway rates have not yet been successful in secur ing the whole of the traffic to indigenous ports, to the all rai route because of the steamer freights being cheaper still, an in spite of much wastage both in Calcutta in loading, and i unloading in Bombay, the transit by rail from the collierie to Calcutta, and thence by steamer to Bombay, and Karachi is yet more economic.

The exports of coal to foreign countries were as shewn under :—

	Twelve months from 1st April to 31st March		
	1907-08 Tons.	1908-09 Tons.	1909-10 Tons.
To Aden & Dependencies ...	13,835	11,224	3,460
Ceylon ...	384,615	354,355	370,570
Straits Settlement ...	198,688	107,615	173,214
Sumatra ...	101,599	85,535	78,883
China ...	...	2	...
East Africa ...	6,437	2,508	...
Other Countries	17,527	8,687	130,867
	722,701	569,926	756,994

During the three years, for which figures are shewn above, there were no exports to China, but at one time Hongkong used to take large supplies from Bengal; in 1906 the taking by that Port amounted to 133,752 tons. Japan coal is now being taken by Hongkong. Similarly the exports to Singapore went down from 260, 523 tons in 1906 to 90, 914 tons in 1907; here also the Japan coal is in competition with the Bengal productions. The serious competition for the supply of coal to Ceylon, the Straits Settlements, Sumatra, and Java is Japan. Indian coal has, as a rule, little chance of competing on successful terms with Japan coal, owing mainly to question of freight, and the coal exports of Japan, which by its position, commands the ports of China, have risen to a much larger figure than those of India.

The imports of foreign coal into India during the same periods were as follows :—

	Twelve months from 1st April to 31st March.		
	1907-08	1908-09	1909-10.
	Tons	Tons	Tons
From United Kingdom	198,230	199,741	279,391
Japan	5,288	5,950	5,523
Natal	35,349	71,364	78,569
Australia (including New Zaland)	50,290	145,796	27,180
Other countries ...	2,140	12,548	15,706
	291,297	435,399	406,369

By far the largest quantity of this coal was taken by Bombay, and small quantities by Madras and Karachi as well.

But taking the months 1st April to 31st October, the imports of foreign coal into India were .—

1908	239,374	tons.
1909	288,558	"
1910	175,350	"

This diminished traffic in the months, April to October 1910, is to be congratulated upon; the heavy imports during the season, 1st April 1909 to 31st March 1910, were probably due to previous contracts, made during the period of high price, and for these imports, the Bengal colliery owners themselves are more responsible than anyone else. The principle should be that small profits repeated several times is more paying and stable than large profits gained only occasionally, and it is to be hoped that the lesson, gained in the past

at a high price, will induce the coal-mine owners to strictly adhere to this policy. The coal industry of to-day is described to be in a healthier condition than 2 years ago when the prices were abnormally high, and with normal conditions, a profitable and steady future is bound to supervene. The petty colliery owners who spoilt the market are disappearing.

The by-products of coal, *viz.* coal tar and ammonia are growing into importance. There are now several coke ovens in the coal fields, and exports of coal tar from Giridih and Kulti have commenced. There is no reason why this industry should not largely develop, and oust the imported coal tar. Encouraging railway rates have been granted for coal tar produced in the country.

Manganese.

The manganese ore deposits in other parts of the world *viz* Brazil and Russia are said to be limited, and the raisings each year in these parts are, therefore, depleting the mines to a great extent, while, on the other hand, the Geological Department of the Government of India are satisfied that India has enormous supplies of manganese ores. It is, however, remarked that the manganese industry in this country is not being worked to the best advantage, but nevertheless the Indian manganese ore has a great future before it which must come sooner or later.

Indian manganese is a very high-grade ore, and it is not costly to mine it, and the Indian ore must always command a market, unless there is unusual depression which, however, is always temporary. The high iron contents of the Indian ores may be regarded as a point in their favour, or otherwise,

according to the use to which the ores are to be applied. It is true that the high iron contents makes it more difficult to manufacture the very highest grades of ferro-manganese from Indian ores, but on the other hand, if the very highest grades are not required, then the iron is of considerable value. There is at the present moment little demand for the low-grade ores, but as the deposits in other countries become depleted and the price of ore increases, the low-grade ores of India will find purchasers; at present the low-grade ores lie stacked in the vicinity of the mines. In any case, the industry is still in its infancy and requires fostering, for there is untold wealth for India in the ore mines.

In 1909, there were 37 manganese ore mines in India, *viz*:—

Central Provinces	Nagpur District	..	12
	Balaghat ,,	...	3
	Chindwara ,,	...	6
	Bhandara ,,	...	3
			24
Madras	Vizagapatam district	...	11
Bombay	Panch Mahals ...	...	2
			37

The mines in the Central Provinces are the most important, and the best manganese deposits are found in those provinces in the four districts named, which cover an area of 3,500 square miles, but the draw-back is that most of the mines have not yet

direct railway access, and some of them are nearly 30 to 35 miles away from the railway lines, and thus the cost of transport from the mines to the railway is rather high and operates against cheap price in competition with the productions of other countries. One of the mining companies has, however, laid two narrow-gauge tram lines, starting from different points on the main line to the South, and penetrating to distances of 12 and 30 miles within the mining area, but what is required is feeder light railways to all the mines of any importance.

The manganese ore, mined in the Central Provinces, is a mixture of braunite and psilomelane, and chemically, the ore is one of the richest and purest. The slopes of hills in India, containing ore beds, are covered by enormous deposits of this nature.

The total output of the manganese ore, during 1909, was as given below:—

Central Provinces	...	279,730	tons
Madras	...	59,818	,,
Bombay	...	17,657	,,
		357,205	tons

But the output in 1907 was 642,082 tons. During 1908 and 1909, the prices of manganese were subject to serious fluctuations. In 1907, the price of first grade ore was 15½ annas per unit of manganese contained; but in August 1908, it dropped down to 9½ annas. This drop in the prices was attributable to both over-production and general depression in the trade, which also accounted for the raisings in 1909 being small.

Remarking upon the industrial uses of manganese, Sir George Watt writes in his "Dictionary of Economic Products of India" as follows:—

"The uses to which the ores of manganese are put in the arts are somewhat varied. The peroxide is extensively employed in glass-makings to destroy the green colour of glass which it does by converting the protoxid of iron into the peroxide; When added to excess, it gives the glass a red or violet colour. The same oxide is used in porcelain painting for the fine brown colour, which it yields. It is also employed in glazing pottery, and in the preparation of enamels. Its most valuable property, however, is the ease with which it gives off oxygen after the application of heat, a property which is largely taken advantage of in the arts. It is also used in the manufactures of chlorine and calcium chloride. Of late years the ores of manganese have been extensively utilised in the manufacture of iron and steel by the Bessemer process the latter especially. Manganese, in the metallic state, is said to deprive iron of its magnetism. A process of application of this principle has been invented in England, by means of which the metal, in the proportion of 27 per cent., is mixed with the steel used for ship buildings; and it is contended that this mixture deprives the steel of its magnetic influence on the ship's compasses."

India is said to be losing a great deal of money by sending its ore in the crude state and had the ore been converted into "ferro manganese." the gain, owing to the higher price paid for "ferro manganese," would have been no less than 13 crores of rupees on the quantity exported during the years 1892 to 1906. The manufacture of "ferro manganese" has not yet been taken in hand in India, but it is suggested that it may be useful to smelt the low-grade ores, which now lie waste.

At the last Industrial Conference at Allahabad, the President, in his speech, laid stress on the fact that unless the manganese ore industry in the Central provinces received fostering assistance in the matter of railway freight, it might die altogether. In an industry, in which India possesses so much advantage in the matter of supply and quality of the ore, such a fear is not quite justified, especially when it is borne in mind that the deposits of ores in other countries are not large, when compared with the Indian deposits. It is observed in the report of the Director of the Geological Survey of India that the depression that came over the Indian ore industry during 1908 affected the Caucasus Supply as well, and was due to a lessened demand for manganese ores by the steel trade and not to Russia having recaptured any of its custom. In demonstrating his case, the President of the Industrial Conference, held at Allahabad during December 1910, laid stress on the point that during 1908 and 1909, the exports from India went down, but this was more or less due to the heavy fall in the prices and general depression in the trade, but things have altered towards better in the direction of increase in the exports. It may be useful to remark in this connection that although the Railway rate from Sihora Road to Calcutta is down to the absolute minimum of one-tenth pie per maund per mile, *viz.* 0-5-11 per maund or Rs. 10-1-1 per ton still, during the period of depression, large stocks of manganese ore were lying near the mines. Both the Calcutta and the Bombay lines have quoted the minimum rates, they are at the present moment allowed to charge for this commodity. During, 1906, about ⅔rds of the manganese ore exports from India passed through the Bombay Port. The Great Indian Peninsula Railway also charge the minimum rate of $\frac{1}{10}$th pie from Nagpur to Bombay, which works out to Re 0-4-4 per maund for 522 miles or Rs. 7-6-0 per ton,

whereas the railway freight on coal, for the same distance is Rs. 6-6-0 per ton, so that the difference between the or and coal rates is Re. 1-0-0 per ton, and the present railwa rates on coal in India are undoubtedly about the cheapes charged by any railway in the world. The question of charg ing same rates on ores, as now levied on coal, requires con sideration. It is correct that the value of export ore is com paratively higher than the value of export coal, and it is als to be admitted that there is no prospect in the immediat future of the traffic in ores assuming the same huge propor tion as coal, but as the deposits of manganese ore are said t be enormous, and the industry is in its infancy, which, i developed, will bring large sums of money to the country, th Railway Board should consider the question of reducing th existing minimum rates from one-tenth pie to the same leve as coal; this will allow of railway freight on ore from Balagha to Calcutta being quoted at Rs.7-4-0 per ton, whereas th lowest rate the railway is now permitted to charge is Rs. 9-3- per ton.

During the official year from 1st April to 31st March, th exports of manganese ore from India were as follows:—

			Cwts.
1907-1908	...	...	10,968,393
1908-1909	...	...	8,760,261
1909-1910	...	...	10,006,882

and for the period, April to 31st October 1910, the export were—

			Cwts.
In 1908 ...	...	...	4,649,314
„ 1909 ...	...	...	5,385,565
„ 1910 ...	...	...	7,061,321

It will be observed that during 1910, there has been an appreciable increase in the exports, which were principally to the United Kingdom, the United States and Belgium as follows during the period April to October 1910:—

			Cwts.
United Kingdom	...	...	2,341,903
United States	...	...	1,882,600
Belgium ...	...	...	1,734,005

With the question of reduced rates for ore, the Railway Board might also consider the question of providing feeder lines or assisted sidings, though the lengths of the sidings will be much longer than the sidings usually are, on favourable terms, to the miners, as they have allowed to the colliery proprietors in Bengal.

PIG IRON.

The pig iron trade of India cannot also be said to be an unimportant one. The Barakar Iron and Steel Works turn out pig iron, and the exports from Calcutta during the years 1907 to 1910 were as under:—

1907	...	..	... 159,938	cwts
1908	...	...	... 144,695	,,
1909	...	...	... 135 492	,,
1910	...	...	... 164,143	,,

The figures for the year 1910 are for eleven months only up to the end of November, and owing to depression in the pig iron trade, along with the general depression in the trade of the

world, the export business in 1908 and 1909 was small, but there has been a rise in the exports lately. Here, also, the drop in the previous years was due probably to stagnation, and some such fear was again entertained in the English market in September and October 1910. The following remarks, bearing on the Indian pig iron trade in Glasgow, from the *Statist* are worth quoting :—

"There are two very remarkable incidents in pig iron which may have had an effect, consciously or unconsciously, on iron warrant market. One of these is the importation of pig iron from India into Glasgow——the former hub of the pig iron trade. The other is the importation of pig iron from China into North America, the largest producing area of pig iron in the world. These are curious events, and contrast strikingly with the expected stream of pig iron from Middle-borough and Glasgow to the United States. But they are capable of explanation, and the explanation, offered us by one in the trade, is certainly intelligible, if it is not absolutely exhaustive. The importation of a small quantity of Bengal iron into Glasgow is reputedly an experimental one to show that in case of need, iron can be got as required from India. There need be no difficulty, we imagine, over the question of freight, which may, perhaps, in the tea season, be got as low from Calcutta for ballast or trimming as from, say, Baltimore in the cotton season, From Calcutta to the Clyde is a long voyage, but sea rates are not always measured by distance. One has heard in past days of heavy freight from the Clyde to Calcutta at 5s. per ton, and even suggestions of less. And even to-day one hears of Indian freights that will not cover the outlays for port, dues, canal dues and voyage incidentals, apart from ship's expenses."

The principal exports of pig iron from Calcutta during 1909 to foreign countries were to New Zealand, Australia, besides exports to Indian ports, such as Bombay, Madras, Rangoon, and a certain quantity is also taken by the Railway workshops in the country. The Railway freight from the Works at Barakar to Calcutta has also been quoted at a low figure, *viz.*, Rs. 2-12-0 per ton, the railway rate on coal from Kulti to Calcutta being Rs. 2-9-0 per ton, the export coal rate, however, being Rs. 2-0-0 per ton.

Future of the Iron Trade of India.

The quantity of manufactured iron, imported into India, is large; the total iron imports during the official year from 1st April 1909 to 21st March 1910 were 5,650,654 tons, valued to the extent of Rs. 4,96,99,578, and, therefore, the enterprise of Messrs. Tata & Sons in starting the Iron and Steel Works at Kalimati (which are still under construction) near Chakardharpur on the B. N. Railway, is calculated to benefit India very largely. The Tata Iron and Steel Company have been formed for the purpose of erecting in India blast furnaces, open-hearth steel furnaces, rolling mills, and other plant necessary for the manufacture of pig iron, steel rails, bars, plates &c. Messrs. Tata & Sons carried out a private Geological Survey of considerable areas in India, and as the result of their survey, very large deposits of very high-grade iron ores have been discovered in the Mourbhanj State in Orissa, and in the Raipur District (Central Provinces). With the very liberal railway rates assured, iron ore can be placed into the Works at Rs. 2-4-0 per ton, and an abundant supply of coal and limestone is available within a reasonable distance of the site of the Works at Kalimati. The Government of India, besides

granting an exceedingly low Railway rate of $\frac{1}{16}$th pie per maund per mile, which means carrying one maund for 45 miles for one pice or three pies, have guaranteed to puchase 20,000 tons of steel rails annually for 10 years, provided they are up to the specification required, and are sold at prices not more than that paid for rails, imported into India. The Capital of the Works has been put at Rs. 2,31,75,000, and basing all costs on liberal figures, and taking also prices at the average cost of imports over 10 years, 1896 to 1905, and assuming an annual sale of 55,000 tons of pig iron, and 72,000 tons of finished steel, it is estimated that after due provision for upkeep, depreciation, Director's fees, and all working expenses there will be a gross profit of Rs. 24,45,000. This industry assures a great future for India's iron trade, and every Indian should wish it success, especially as iron smelting was at one time a wide-spread industry in India. In ancient times Indian people seem to have acquired a fame for metallurgical skill, and the reputation of the famous *wootz* Steel, which was made in India long before the Christian era, contributed the general impression that the country is rich in iron ore of a high-class type.

MICA.

Although India supplies more than 60 per cent. of world's mica, the total value of mica exported from this country in a year is not more than 34 lakhs of rupees. The two other countries producing mica are Canada and the United States of America. Then again, out of India's total production, more than half the quantity is raised from the mines in Bengal, the mines being situated in the districts of Hazaribagh, Gya and Monghyr. Mica is also raised in the district of Nellore in the Madras Presidency and in Ajmer and Marwara in Rajputana.

The following are the figures of export of mica during the years 1904 to 1909:—

1904	...	...	22,164	Cwts
1905	...	...	25,641	,,
1906	...	...	52,543	,,
1907	...	...	52,203	,,
1908	...	...	53,543	,,
1909	...	...	32,011	,,

It will be seen that compared with 1904, the raisings in 1908 were greater by nearly 141 per cent. but in 1909 there was a decrease in the output. It has, however, been remarked that sometime there is a tendency to underestimate the figures partly to avoid royalty and partly due to mica stealing

There is an extensive internal trade in mica of the poorer grades for ornamental and decorative purposes, and of the exports, the United Kingdom takes the largest share, the United States and Germany comes next, but it is remarked that of the quantity imported into the United Kingdom, a large portion is reshipped to America. The Director General of Geological Survey of India remarks as follows on the increased use of mica:—

"The increase is largely due to the invention of Micanite, in which small and inexpensive sheets of Mica are cemented together with shellac under pressure, with the production of large sheets costing much less than the natural sheets of equal size. The decreased cost of this material led to the increased application of mica in the arts, especially for electrical insulation. Further—more scrap mica, formerly thrown away, is now ground up and used for boiler and pipe lagging, as a lubricant and for wall paper and paints."

The price of mica exported to England fetched no higher average price than £5. 94 per cwt., whereas the direct shipments to the United States were sold at the average rate of

£6. 17 per cwt. It is, therefore, to the advantage of the Indian export mica trade that all shipments to the United States should be direct instead of the portion of the trade being carried on through the United Kingdom.

It is said that the Hazaribagh mica tract is one of the richest in the world, but it is to be regretted that the lease holders are working the mines with utter disregard for the future, and by following the line of least resistance in mining operations the result is not always leading to ultimate success, and some mines have thus been abandoned, and are now either water-logged or covered with debris, so that it is difficult for future workers to work these mines.

So far as the high grade mica is concerned, the railway rate is an insignificant figure. The price of such mica varying from Rs. 35 to Rs. 73 per maund, the railway freight from say Kodarma to Calcutta at Rs. 1-1-7 per maund is really insignificant, but lately the Railway Tariff classification for low grades of mica has been raised. Formerly, the classification for mica valued at less than Rs. 25 per maund was 2nd class; but under the new classification only 4th class rate applies to all mica, the 2nd class rate applying to 'mica refuse' only. The lower grades of mica, which really do not come under the head of 'mica refuse' have now to pay the 4th class rate, so that while on such mica the price of which is Rs. 5 to 10 per maund, the railway rate was formerly Re. 0-10-9 per maund, to Calcutta from Kodarma, but it has now been raised to Rs. 1-1-6 per maund. It will be to the interest of railways and of the trade to encourage larger despatches of lower grades of mica by cheap railway rates. The price of refuse mica is 8 annas to 10 annas per maund.

CHAPTER XX.

Development of India Through Feeder Railways.

Although during past ten years, considerable advance has been made in Railway extensions in India, much yet remains to be done in opening up the interior. There are a few districts in India, which would not benefit by more railway communication, and the Government of India are very keen on feeder railway development, but the demands on "Railway programme" are always far in excess of the amount, however large which is allotted annually for railway expenditure. Out of the allotment, the Government must, in the first instance, provide funds for the maintenance, upkeep and improvement of existing railways, including provision of rolling stock for increasing traffic. Next, money has to be given for completion of railways already under construction, and the "residue is available for new lines."

It may be well imagined what the "residue" can be; and there are financial objections to direct borrowing by the State for railway construction. If, therefore, feeder lines are to be provided for on a large scale, it must be private enterprise which should come to the aid of the Government.

The Secretary of State for India in considering the future of Indian Railways in 1868 expressed his view that the system of Government guaranteeing a certain percentage of minimum interest on capital outlay seemed to be properly applicable, when there was reasonable hope that the prospects of the undertaking would, in moderate time, rise above the amount, which the guarantee covered. It was also emphasised that

such terms should be given as would attract capitalists to invest money in Railways in India, and not such as must repel them from entering into contract.

The Indian public do not, however, seem to be keen on investing money in feeder railways, upon which the future development of India so much depends, and seeing that large sums are invested in Government paper, it seems that Light Railway schemes have not been found favourable by the public, apparently because the interest guaranteed is not sufficiently attractive.

It will doubtless be admitted that every improvement in the communications of a country results in an increase of prosperity. In fact, Railway development and prosperity and advancement go hand in hand, as is evinced both by the general condition of the country and by the particular conditions of each region, before and after a line of railway is driven through it.

With Government paper yielding 3 and 3½ per cent., it is evident that nothing less than 4 to 4½ per cent. could suffice to attract people to invest money in railway shares. This was the opinion expressed by late Mr. T. Robertson, C. V. O. Special Railway Commissioner for India seven years ago, and this view has been fully borne out by the experience of past seven years.

So recently as in June 1910, the Government of India revised the terms, under which they are prepared to consider offers for the construction, by the agency of private companies, of branch lines forming feeders either to the State lines worked by the State or to railways worked by Companies, and although

the revised terms are liberal in respect to grant of free land, terms of purchase by the Government, &c. the minimum rate of interest to be guaranteed on the actual capital expenditure still remains at $3\frac{1}{2}$ per cent.

The Government of India, however, also offer an alternative in the shape of rebate system. For the information of the public, it will be interesting to quote here the terms of the rebate system :—

"When the branch line connects with a railway owned and worked by the State, the Government of India will be prepared to allow the Company in respect of, and at the end of each calender year by way of rebate, such a sum, not exceeding in any year the nett earnings (exclusive of earnings, derived from the carriage of revenue stores) from traffic interchanged between such State Railway and the branch line as shall, together with the nett earnings of the branch line, make up an amount equal to interest at the rate of 5 per cent. per annum on the actual expenditure charged to the capital account of the Company."

This in a way amounts to 5 per cent. guarantee, although it is not said in so many words that the Government would make up the deficit if the net earnings from the branch line, together with the net earnings of the main line on traffic to and from the branch line, do not yield 5 per cent. return on the capital spent on the branch. Again, the "rebate system" can only be promised by the Government when the main line, to which the proposed branch is to be a feeder, is a State line worked by the State, but the number of State lines worked by the State are but three, *viz.* the Eastern Bengal State, the Oudh and Rohilkhund, and the North-Western Railways.

The feeder lines, constructed during the past fifteen years by private enterprise out of capital raised in India, under the guarantee or rebate system, are as follows, and the percentage of net earnings to the capital outlay during 1909 is also shewn below :—

	Gauge. ft.	in.	Percentage of net earnings to capital outlay.
Tapty Valley Ry. ..	5	6	4·73
Ahmedabad-Dholka Ry.	3	$3\frac{3}{8}$	6·09
Ahmedabad-Parantij Ry.	3	$3\frac{3}{8}$	8·40
Amritsar-Patti Ry ...	5	6	6.72
Baraset-Basirhat Lt. Ry.	2	6	4·42
Bukhtiarpur-Behar Lt. Ry.	2	6	4·44
Barsi Light Ry. ...	2	6	6·82
Shahdara-Saharanpur Lt. Ry.	2	6	4·71
Howrah-Amta Lt. Ry. ...	2	0	9·66
Howrah-Sheakhala Lt. Ry.	2	0	5·92

It has been shewn that in no case a feeder railway, constructed under the guarantee or rebate system, is now yielding less than 4·42 per cent., and in six cases the percentage of net earnings to capital outlay was 6 to 9 per cent. Excepting in the case of Tapty Valley Railway, it did not take the other lines more than 2 years to earn the present rate of interest or something near to it. Therefore, the minimum rate of interest of $3\frac{1}{2}$ per cent. does not appear to be reasonable to those desirous of investing money in railways.

There are, however, always two sides to a question. From the point of view of the Government of India, they are in a way justified in limiting the minimum guarantee to $3\frac{1}{2}$ per cent., as taking all things together, the terms to the State should be the least onerous, but at the same time it is to be borne in mind that it would be difficult to find capitalists eager to invest money in light railways until at least the rate of interest is slightly higher than on Government paper. Seeing that the feeder railways in the past have yielded far in excess of $4\frac{1}{2}$ per cent in a majority of the cases, a minimum guarantee of $4\frac{1}{2}$ per cent. would not mean risking much on the part of the Government; while, on the other hand, this increased rate of interest would be attractive, and the object of the Government in promoting light railways in the interest of the country would be better attained than at present.

The Government of India make it a condition that the construction of a new line will not be begun until they are satisfied that capital sufficient to meet the expenditure has been subscribed, and should the Government be pleased to raise the minimum rate of interest to $4\frac{1}{2}$ per cent. there would perhaps be no objection on the part of the public if the Government make a condition that it will be optional with the Government of India to make fresh enquiries in connection with the traffic prospects of a proposed scheme, in all cases where there may be any doubt as to the results, the expenses of such a fresh enquiry being debited to the "promotion money;" this will make the promoters very careful in their enquiries.

The Government need not sanction schemes, under the rebate or guarantee system, when there is no surety of $4\frac{1}{2}$ per cent. outturn based on the traffic prospects ascertained.

Further, the provision that when the nett earnings exceed 5 per cent. any excess over this limit would be shared equally between the Government and the shareholders is also not very favourably regarded by the investors. In the first place, they feel that the guaranteed interest of $3\frac{1}{2}$ per cent is too low, and, secondly, they think that the moment the opportunity comes for them to earn something more than $3\frac{1}{2}$ per cent. the Government comes in for a share. Little do the public realise that the object of such a division of the surplus above five per cent. is to obtain an asset which would be available for the guaranteeing of interest on other feeder lines. The object of the Government is to benefit the Indian people as a whole, but the individual capitalist is not inclined to take this view. In order to make the terms of guarantee more attractive, it would perhaps be better if the Government did not share in the surplus profits until the rate of dividend was more than $5\frac{1}{2}$ per cent. In that case, perhaps the shareholders would readily consent to the Government taking more than half the share of surplus profits over and above $5\frac{1}{2}$ per cent.

CHAPTER XXI.

The question of reducing public expenditure, the future of agriculture and commerce in India and the question of increasing the wealth of the country

The question of reducing the public expenditure is the burning question of the day, and another subject, which is also at the present moment engaging the attention of the Government of India, is the rise in the prices, and this question is under-investigation by an able body of Government officials, whose report is anxiously awaited by the public. But the real problem underlying all these questions, is that India should advance in the direction of development of its resources to their fullest extent, and increase its wealth, and, consequently, its purchasing power.

Any reasonable reduction in the public expenditure is always welcome, but seeing that the country is yet dependent on Government grants to such a great extent, which form such a large debit in the accounts of public expenditure, and as a great deal of progress in the work of almost all departments of the Government has yet to be attained in the interests of the public, before any steps are taken to curtail the expenditure, the whole thing must be surveyed from a very broad point of view.

First, to deal with the question of rise in the price of food-grains, any useful discussion on this subject might perhaps with advantage be deferred until we know what the Government officials, conducting the enquiry, have got to say, but at the same time any general discussion at this stage is not likely to prejudice their report; on the other hand, it may assist the enquiry. A recognized expert on Indian agriculture has said

that in spite of the fact that during normal years, the people do not feel the price of food-grains, and that the producer readily turns his surplus into money, thus encouraging large exports of food-staples to foreign countries, the time may not be very far off, when owing to the increase in population, and the growth of cultivation (even under improved methods) not keeping pace with the rise in population, India will have to look to other countries for its supply of food.

The suggestions to adopt improved methods of cultivation, to increase the yield per acre, and to place all available waste land under agricultural operations, are no doubt in the right direction. It is true that agriculture is at the present moment the greatest industry of the country, but when it is borne in mind that the allotment per acre of cultivated land in India and other Asiatic British possessions is but 3 acres per individual, when compared with more than 300 acres per individual in America, it cannot be said that for the benefit of the future generation, all that is necessary is to improve the agricultural industry only. However great the improvement may be in this direction, there is a limit to it, and judging from the experience of the past years, the prospects do not appear very reassuring from the point of view of enriching the people of the country from its sources of agriculture alone, although at the same time it must unquestionably be admitted that all that is necessary to increase the production and yield per acre should be done, because it is from the raw materials of agriculture that India can hope to make an advance in its manufacturing interests.

The milling of more wheat-flour, oil, and the manufacture of a superior quality of sugar as cheaply as possible, and the turning out of piece-goods and twist from its own manufactories

must be the real industrial future of India. The exports must also be encouraged, as any civilised nation must hope to improve itself, by increasing its area of import and export trade, but in both the country should try to so work the trade as it would be to its best advantage in every respect. The agricultural productions, such as wheat, oil-seeds &c. are exported in their raw state, and the endeavour should be to turn them first into flour and oil respectively before exporting. Secondly, the growing of cotton, jute and other staples that bring more money to the ryots should really have preference over growing of cheap productions. At first sight, it may seem that less food-staples produced would only increase the chance of severity of the famine in a bad year, but when it is seen that an increase in the wealth of the ryots means increasing their purchasing power, it will at once be admitted that the high price of food-stuffs will not affect them much so long as they have money to meet the rise in prices.

Taking the instance of England, which is poor in agriculture, but rich in its manufacturing industries, and is, therefore not affected by the failure of its crops, and has to import almost every article of food from foreign countries, paying for the same from the money earned from its commerce and manufactories, India should rise in its manufacturing and commercial activity, so that the stress on land may be lightened.

What has been said about India in the matter of its manufacturing interests in future being considered of far greater importance than even agriculture, cannot be said of America as the cultivated area per individual is over 300 acres against 3 acres per individual in India, so that there will be yet a large surplus in that country for export for many,

many years to come. It was remarked so lately as in December last, that one of the fundamental factors in the progress of the United States is its agicultural output. America hopes to profit by the rise in the price of food-stuffs, cotton and wool. In the nineties, the farmers in that country gave up farming, and flocked to towns and manufacturing districts to avoid the farms. These conditions were brought about in consequence of the extremely low prices of food, cotton and wool, which were then experienced.

During the last ten years, however, these conditions have changed by the rise in prices. The high prices have forced the Americans to pay renewed attention to farming, and the question of how to increase the output is being discussed from many standpoints. Large sums of money are being voted to Agricultural Colleges in every State, and thousands of farmers are being trained in scientific methods with a view to increasing the yield per acre, and the estimated increase in the wealth of the Americans during next twenty years is 100 per cent. The area under cultivation of maize, wheat, oats, barley, and cotton has increased from 157,808,000 acres in 1890 to 237,502,000 acres in 1910 in the United States or an improvement of 79,694,000 acres. In India the area under wheat cultivation during the year 1909-10 was 27,910,400 acres against 25,370,078 acres in 1898-99, and more than 28,000,000 acres in 1903-04 and 1904-05, whereas the cotton area in 1909-10 was reported to be 20,227,000 acres against 11,884,576 acres in 1899-1900. It will thus be seen that in India, in wheat the expansion in the acreage has not been satisfactory, but in cotton in the last ten years the acreage has practically been doubled, but the figures of 1909-10 for cotton are below those of years 1906-07 and 1907-08.

As already stated, the conditions of the two countries are so different ; the United States have an enormous surplus for export, and can expand the area and yield to a far greater extent ; the farmers are rich and can spend large sums on improvements, whereas in India the room for development in increasing the area and yield, compared with America, is practically insignificant, and the agricultural classes are poor, and can hardly make both ends meet. While America hopes to profit considerably by the increase in prices of food-staples, India suffers greatly under such conditions.

Now, as to public expenditure, as already remarked in consideration of any proposal to effect a reduction in it, the first and foremost care should be that in doing so, the work of progress in the various departments is not retarded. There is first the education of the Indians in arts of manufacture and commerce, and next comes the improvement of irrigation. Canal irrigation has been introduced in the Punjab, the United Provinces and in parts of Bengal, and has proved a great boon, but in the Madras Presidency, lift irrigation has been introduced. In the Presidency, more than 250 oil engines and pumps are utilized in lifting water from wells, channels, canals, tanks, lakes and rivers, for irrigation of dry land, and in the Central Provinces and the United Provinces, in the districts far away from the rivers, digging of wells and tanks, and the introduction of lift irrigation would be of greatest advantage, and the public expenditure in this direction should be increased. But public expenditure alone cannot do much good, because there is always a limit to the public money which the Government can sanction for irrigation. The formation of private companies for Sinking wells and the construction of lift irrigation with some sort of guarantee from the Government in the way of payment of the sum at present

realized from the ryots, supplied with irrigated water, or a little more, will be of great assistance in advancing the interests of the country.

There is also the tendency to curtail the expenditure on railways, but it cannot but be recognised that the boon to the country through railways has been incalculable, and it may be useful to quote the following from the writing of a distinguished American economist :—

"The Railways in America have been the prime factor in enabling the country to recover from the losses of the civil war, to resume specie payments, and in establishing prosperity on a sound basis."

These remarks date ten years back. Although it cannot be said that the Railways in India have produced the same amount of good as the Railways in America, there is no doubt that this great transporting agency has been an important factor in securing the benefits which India enjoys at present, and hopes to secure in the future, especially in developing its production and trade by an improvement in the transport facilities. Any expenditure in the construction of new lines to tap a prosperous market or to develop an entirely new tract of land or to improve the condition of a district should never be objected to, and the importance of such an expenditure can only be considered as second to the expenditure on "irrigation."

As observed in the previous chapter what is really wanted in this direction, is the increase of the Government guarantee of $3\frac{1}{2}$ per cent. to $4\frac{1}{2}$ or 5 per cent. on feeder railways, that may be left for private enterprise to provide, as without an increase in the guaranteed interest to any thing less than $4\frac{1}{2}$

per cent. it is not possible to make the scheme of providing railways in India through the agency of private enterprise a success. Any reduction in the expenditure on trunk lines of railways, already in existence, does no doubt require consideration, but care is necessary to be taken to ensure that in doing so, the power of railways in carrying 'the maximum of traffic at the minimum of rates' is not minimised.

Further, so long as there is work of progress to be achieved in every direction, with which the interests of India of to-day and of India of the future are so much allied, it is a very difficult matter to advise upon the question of reducing the expenditure. The question which should always come to the fore in future is "the increase of the wealth of the country, through its industrial development in all directions."

CHAPTER XXII

METRE-GAUGE ENTRANCE TO KURACHEE.

The Jodhpore-Bikaneer Railway System has been seeking entrance into Kurachee port on metre gauge by the construction of a 3′-3⅜″ gauge track between Hyderabad (Sindh) and Kurachee over a length of 110 miles. The question was brought up by the Kurachee Chamber of Commerce 8 years ago, during the visit of the late Mr. T. Robertson, C. V. O. Special Railway Commissioner for India, and the matter is again engaging the attention of the Government of India at the present moment.

The construction of the metre-gauge link from Hyderabad (Sindh) to Kurachee will place the important marts of the North, such as Agra and Delhi, in direct connection with Kurachee on unbroken metre gauge *via* Kuchman and Hyderabad, (Sindh) and afford the shortest route for traffic between Kurachee and Northern India. The existing distances by the broad gauge are as follows over the North-Western Railway route:—

Delhi to Kurachee	908 miles over the N. W. Ry.
Agra to Kurachee	1,030 *via* the A. D. C. and the N. W. Railways.

But the distances by the metre gauge to Hyderabad (Sindh) *via* Kuchman Road, and thence over the North-Western to Kurachee are as under :—

Delhi to Kurachee...	...	... 780 miles.
Agra to Kurachee ...	...	... 781 miles.

It will be seen that the latter route, involving a journey of 200 miles over the Rajputana-Malwa Railway and 466 miles over the Jodhpore-Bikaneer State Railway (which belongs to the Native States of Jodhpore and Bikaneer, and partly runs over the British territory) offers the shortest route, but there is a transhipment at Hyderabad (Sindh) which is considered an impediment to the trade.

The Government of Bombay (Railway department) in expressing their views against the scheme argue that the provision of a direct metre gauge tract from Delhi to Kurachee will enable the metre-gauge system to offer lower rate to the public than can be quoted by the broad-gauge route over the North-Western Railway. On page 196 of the report of the Ganges Bridge Committee, held in Calcutta a few years ago, it will be seen that one of the strongest reasons, advanced by the Calcutta lines in favour of the Mokameh route, was that it would offer the cheapest rates to the public, it being the shortest route, and *great stress was laid on the point that the route, which is in a position to offer the cheapest rates, should not be prevented from doing so,* and that all efforts to oust such a route by the system of "blocking rates," should be discouraged. But unfortunately one of the *strongest reasons* advanced by the Bombay Government (Railway department), against the metre-gauge entrance into Kurachee, is that thereby the metre gauge would deprive the North-Western of its traffic between, say Delhi and Kurachee by quoting rates below the North-Western Railway "minimum." The distance by the broad gauge between Delhi and Kurachee is 908 miles, and the lowest rate that can be quoted by that route from Delhi to Kurachee for wheat in wagon loads, is Rs. 0-7-7 per maund, but if the metre gauge link is an accomplished fact, and the Jodhpore-Bikaneer get the working of it, the metre-gauge system will be in a position

to offer a rate of Rs. 0-6-6 per maund, or there will be a reduction in the rate to the extent of Rs. 1-13-0 per ton. This is really where the shoe pinches, so far the Bombay port is concerned, as the lowest railway rate that can at present be quoted from Delhi to Bombay, is Re. 0-7-1 per maund, or, in other words if the metre-gauge get the advantage of direct entrance into Kurachee, this port will score in the matter of railway rates to the extent of Rs. 1-0-0 per ton. as compared with the Delhi-Bombay rate. But Bombay ought not to grumble at this, because in comparision with the Calcutta port, which has to labour under the disadvantage of higher ocean freights, the Western port of Bombay has a lower railway rate for wheat from Delhi than the charge to Calcutta by Re. 0-11-3 per ton. Then again, under an arrangement come to between the North-Western, Bombay, Baroda, and Calcutta India and the Jodhpore-Bikaneer Railways 8 years ago, the railway rates from Delhi, are to be the same to Kurachee by the metre gauge as by the North-Western Railway route and further the North-Western Railway are not allowed to resort to "blocking rates" between Hyderabad (Sindh) and Kurachee. The Government of India, should they think that the interests of the North-Western Railway ought to be protected, may allow the North-Western Railway to reckon the distance by their route for purpose of "Government minimum rates," the same as *via* the metre gauge, as is done in the case of quotation of rates for coal traffic by the longer alternative routes, and has been allowed to the East Indian Railway in respect of traffic between Agra and Delhi. Another argument, used by the Bombay Government, (Railway Department), is that the North-Western Railway have made provision for broad-gauge stock for the carriage of the traffic to and from Kurachee, which they now receive from the Jodhpore-Bikaneer system at Hyderabad (Sindh) and that

there are no complaints as to shortage of stock. Apart from the point that this is the first time that such an argument has been used against the opening of an alternative route, if Government consider that there would be a surplus of rolling stock on the North-Western Railway in the event of the metre gauge getting direct entrance into Kurachee, they might at once curtail the budget grant on other State lines (whether worked by the State or by a Company) under the head of "Increased rolling stock," and arrange for those lines requiring more wagons to take over the excess rolling stock of the North-Western Railway. The metre gauge will not require many more wagons for the extra haulage of their traffic over 110 miles when they are already carrying such traffic for 660 miles, and the point now for consideration of the Government of India is whether the interests of the lines, owned by the Native States, and the interests of the public and of the Kurachee trade should be sacrificed to the interests of the North-Western Railways. Let us see what the decision of the Railway Board is.